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THE CATHOLIC WORLD'S HERESIES CONCERNING EDUCATION.

THE *Catholic World* is the leading magazine in this country, published in the interest of the Catholic church. It is very ably edited, and contains much matter that we find profitable reading. And, further, unless we deceive ourselves, we have so far mastered our prejudices as to be willing to accept truth, come whence it may, and ready to rebuke error, find it where we will. This premised, we want to call the attention of the readers of the JOURNAL to the heresies concerning education contained in certain paragraphs of an article in the April number of the magazine above alluded to. The title of the article is "Unification and Education," and its design is to answer an article by Senator Wilson, of Massachusetts, on a "New Departure for the Republican Party," published in the January number of the *Atlantic Monthly*. With the political opinions expressed, or positions taken, in either article, we have in this place no concern; nor have we any present disposition to discuss the broad educational question mooted by the respective writers. Our intention is to confine our strictures to the following paragraphs:

"We do not, indeed," says the *World*, "prize so highly as some of our countrymen appear to do, the simple ability to read, write and cypher; nor do we believe it possible to educate a whole people so that every one, on attaining his majority, will understand the bearing of all political questions, or comprehend the complexities of statesmanship, the effects at large of all measures of general or special legislation, the bearing of productive industry on national wealth, of this or that financial policy, the respective merits of free trade and protection, or what in a given time, or given country, will best secure individual freedom and the public good. This is more than we ourselves can understand, and we believe that we are better educated than the average American. We do not believe that the great bulk of the people of any nation can ever be so educated as to understand the essential political, financial and economical questions of government for themselves, and they will always have to follow blindly, their leaders, natural or artificial, consequently, the education of the leaders is of far greater importance than the education of those who are to be led. All men have equal, natural rights, which every civil government should recognize and protect; but equality in other respects, whether sought by leveling downward or leveling upward, is neither practicable nor desirable. Some men are born to be leaders and others to be led. Go where we will in society, in the halls of legislation, the army, the navy, the university, the college, the district school, the family, we find the few lead, the many follow. It is the order of nature, and we cannot alter it if we would. Nothing can be worse than to try to educate all to be leaders. The most pitiable sight is a Congressional body in which there is no leader, an army without a general, but all lead, all command—that is, nobody leads or commands. The best ordered and administered State is that in which the few are well educated and lead, and the many are trained to obedience, are willing to be directed, content to follow, and do not aspire to be leaders. In the early days of our republic, when the few were better educated than now and the many not so well, in the ordinary sense of the term, there was more dignity in the legislative, judicial, and executive branches of the Government, more wisdom and justice in legislation, and more honesty, fidelity and capacity in the administration. In extending education and endeavoring to train all to be leaders, we have only extended presumption, pretension, conceit, indocility, and brought incapacity to the surface.

"These, we grant, are unpopular truths, but they, nevertheless, are truths, which it is worse than idle to deny. Everybody sees it, feels it, but few have the courage to avow it in the face of an intolerant and tyrannical public opinion. For ourselves, we believe the peasantry in old Catholic countries, two centuries ago, were better educated, although for the most part unable to read and write, than are the great body of the American people to-day. They had faith, they had morality, they had a sense of religion, they were instructed in the great principles and essential truths of the Gospel, were trained to be wise unto salvation, and they had the virtues without which wise, stable and efficient government is impossible."

These are strange sentiments to be entertained by an American citizen in the year 1871. If they had come from the pen of a courtier of some European monarch two or three centuries ago they would excite no surprise. They mean despotic rule both in Church and State.

Before we notice the leading position of the writer as presented in the paragraphs of his article quoted, we wish to refer specifically to several expressions of opinion, the outgrowth of the general principles entertained, which we deem not only erroneous but dangerous.

The writer does not prize, he says, so highly as some of his "countrymen appear to do the simple ability to read, write and cypher." The meaning of this expression is that these acquirements are of very little value; that men whose knowledge does not extend beyond reading, writing and cyphering had about as well have no knowledge. Now, while we admit that the ability to read, write and cypher does not constitute a scholar; does not imply much of that culture which marks the full man, which guides the will and keeps the passions in check, we hold that its practical value can scarcely be over-estimated. A sufficient proof of our position is found in the fact that no one possessing such ability would be willing to dispose of it at any price. Its value is felt to be such that money cannot buy it. A laboring man who, when his day's work is done, can read his newspaper, his book or his Bible, can write a letter to his friend, and cast up his simple accounts, even though he can do no more, occupies a higher sphere, moves on a more elevated plane, is more useful to himself and others, has more and better sources of enjoyment, yields less easily to temptation, is by odds a nobler being, than one who is wholly ignorant; and a statesman can propose to himself few objects of more importance than that of providing for a whole people the opportunity of acquiring even this limited amount of knowledge.

The writer of the article in the *World* says further, "We do not believe that the great bulk of the people of any nation can be so educated as to understand the essential political, financial, and economical questions of government for themselves, and they will always have to follow blindly their leaders, natural or artificial." On the contrary, we hold just the opposite of this doctrine. We admit, of course, that every individual in a nation cannot be so educated as to understand fully all questions of the character named; nor is that necessary; but we are certain from the results of the experiments made in ten thousand towns and townships in this country, that through the operations of a common school system wisely administered, the knowledge "essential" to good citizenship can be made so universal that all who enjoy the right of suffrage may vote intelligently. To deny this is not only to ignore the plainest facts, but to deny that God made all men capable of acquiring such knowledge. Besides, the doctrine we combat is either false, or our free institutions rest upon an insecure basis. In establishing a Government of the people, our fathers assumed that the people could be made sufficiently intelligent to exercise judiciously the powers thus intrusted to them. Says Washington, in his Farewell Address, "In proportion as the structure of a Government gives force to public opinion, it is essential that public opinion should be enlightened." Here, in this country, the structure of the Government gives every man the right to express his opinion by his vote, upon the assumption that the opinion thus expressed may be made an enlightened one. If not, then universal suffrage is a great mistake, and republican institutions a fraud. The man who could calmly assert that the bulk of the people of any nation "will always have to blindly follow their leaders," whatever he may be otherwise, is not a good American citizen. He has scarcely another step to take to make him the advocate of orders of nobility and a king.

There is some truth in the assertion, that "In extending education and endeavoring to train all to be leaders, we have only extended presumption, pretension, conceit, indocility, and brought incapacity to the surface;" but it arises from the fact that our systems of public education are still very incomplete. There is in no one of our States at the present time a well-founded system of education, embracing not only the elementary branches of learning, but the higher branches. About all we have attempted to do as yet is to instruct all the youth of the country to read, write and cypher.

As "a little learning is a dangerous thing," especially when not wisely imparted, it is not to be wondered at that something of "presumption, pretension, conceit and indocility" are brought to the surface. This effect, however, results, not from an attempt to extend education to all, but from an inability as yet to make it sufficiently comprehensive and thorough. With systems of popular education not only embracing all but imparting a good education to all, systems such as are now contemplated by all thinking school men, the evil complained of will be prevented. It is simply that intoxication of brain which arises from "shallow draughts" of learning and which will be again sobered by "drinking largely." A better doctor than our author would prescibe for the patient not less medicine but more. The symptoms are exactly what might be expected from the amount and quality of that already administered.

The declaration made in the article under review, which will probably most astonish those acquainted with the facts, is the following: "For ourselves, we believe the peasantry of old Catholic countries, two centuries ago, were better educated, although for the most part unable to read and write, than are the great body of the American people to-day." What was the condition of the peasantry of the old Catholic countries of Italy, Austria, Spain, France, Ireland, two centuries ago? Our author admits that for the most part they could not read and write, but he adds "they had faith, they had morality, they had a sense of religion, they were instructed in the great principles and essential truths of the Gospel, were trained to be wise unto salvation, and they had the virtues without which wise, stable and efficient government is impossible." We had thought that the maxim, "ignorance is the mother of devotion," belonged to a past age, but here we have the doctrine conspicuously taught in this latter part of the nineteenth century. True, there may be a kind of instinctive faith, a kind of blind devotion, a kind of animal docility without education; but we had not supposed that any intelligent person could be found in this age and country to advocate it as a desirable social or religious condition. That the "virtues," whatever they were, of the peasantry of "old Catholic countries, two centuries ago" did not conduce very strongly to promote their physical, mental or moral well-being, we have the most conclusive proofs from the history of the times. This history, as we have read it, tells but one story; that of gross ignorance attended with poverty, wretchedness, licentiousness, superstition and crime. In no period of the world's history, probably, was there among the lower classes of society, in any country, a more general disregard of the laws of the land or the living precepts of the Gospel, than during the seventeenth century in the countries referred to. Besides, the seventeenth century was an age of wars and revolutions. Scarcely a "wise, stable and efficient government" existed in Europe. If, then, the peasantry possessed those "virtues" without which such governments are impossible, it would seem that they did not bear at this time their legitimate fruit. We could instance facts and quote opinions at any length going to prove what we have said concerning the moral and political condition of European countries at the period named, but we presume that to do so would be to go to unnecessary trouble. History tells but one story, that we have indicated, and the writer in the *World* must have written, surely not in ignorance of the truth, but certainly in entire disregard of it.

We are now ready to consider the doctrine that seems to underlie the unsound positions just commented upon. It crops out in a number of places in the paragraphs quoted, but appears most conspicuously in the following sentences: "Some men are born to be leaders, and the rest are born to be led." "The education of the leaders is of far greater importance than the education of those who are to be led." "Nothing can be worse than to try to educate all to be leaders." "The best ordered and administered State is that in which the few are well educated and lead, and the many are trained to obedience, are willing to be directed, content to follow, and do not aspire to be leaders."

There is no mistaking the meaning of these bold utterances. They mean a government of one or a few, in State and Church. They mean in this country the overthrow of the principles of republicanism and the substitution in their place of those of despotism. They mean power, and wealth, and education for the few; and degradation, and poverty, and ignorance for the many. They mean one lord and thousands of peasants; one master and thousands of slaves.

It may be that "some men are born to be leaders;" but if so, the history of this country abundantly proves that they are not the product of any special class of society. Talent for leadership with us has been quite as often born in the cottages of the poor as in the castles of the rich; quite as often among the lowly as among the powerful. Hard facts, patent to the most obtuse observer, show that our great men have not been produced by long lines of royal ancestors, by the laying on of priestly

hands, or by any costly "meat" upon which they have fed; and that, consequently, we cannot select a class of persons and educate them for leaders. If God sent children into the world with marks upon them reading, this is a king, this is a lord, this is a pope, this is a priest, then, we could educate them accordingly. But the only mark God sets upon a man is his *manhood*, and the right of each to a fair chance to develop his God-given powers is inalienable. It may not be wise "to try to educate all to be leaders," and no one makes the foolish attempt; but we try to educate all in order that we may know who are qualified for leadership and that each may find the place in the social scale God designed him to occupy. A common school system, well administered, does not force leadership upon the unqualified or compel the qualified to remain in ignorance. Such a system aims to develop all the talent of every kind that is born within the borders of a State, in order that it may be turned to its proper uses. It takes all the developed brain-power of a State to perform well the work of the State, and no fear need be entertained that when developed it will not properly adjust itself. Educate all, and those designed by Providence for leaders will become leaders, and those designed to be led, "will be content to follow." Each will move in his natural sphere. That condition of society is abnormal which does not give every member of it "a fair chance" in life; which forces some up and keeps others down.

We are glad to see that all Catholics do not take the same narrow view of education that is taken by the author of the article in the *World*. There are broad-minded men among them who would give this boon to all, high and low, rich and poor, without regard to race, class, color or condition. In this connection, we will quote a few sentences from the report of a lecture recently delivered at the Horticultural Hall, Philadelphia, by Father Nugent, for many years chaplain of the Borough Prison, Liverpool. The title of the lecture was "Nobody's Children," and the Reverend Father, in speaking of the 48,782 children in the city of London, between the ages five and fourteen years, who, he stated, attended no school, said:

"They are the seeds of a future generation, created by God, and endowed with faculties to gain their bread and prove useful members of society. If taught their duty to God, to society, and themselves, they will grow up to be an ornament to any position and the pride of any country. Their condition is more their misfortune than their fault. With no one to care for them, it is unchristian to say that vice or virtue is inherited from the parent stock. They are no more hereditary than genius and talent, and here genius and talent are running to waste in the gutters of our streets.

"He could find the equal in bodily, mental, and social status among the shoe-blacks and fusee sellers of London, for any of the scions of Eaton or Oxford or Rugby, in whose veins runs the blue blood of the aristocracy. They are keen, cute, sharp, and quick-witted; as anxious to make money and secure the attention of the public as is the banker on the side of the stock board."

Then, of the children "who were running wild in the streets of Philadelphia," he said:

"Educate them, and they will honor any station; neglect them, and they will grow up villains: they will prey upon society, and scourge it by their vices for the neglect with which they were treated."

These sentiments are broad and truly Catholic, presenting a happy contrast to the narrow, un-American doctrines contained in the article we have criticized. The movement that has for its object the education of the whole people draws to its aid the best and bravest of all parties and all creeds, and with the smiles of Heaven resting upon it, it must succeed.

MATHEMATICAL NOTES.

BY PROF. EDWARD BROOKS.

II. ALGEBRAIC SYMBOLS.

ALGEBRA *is a general method of investigating quantity by means of symbols.* Algebraic symbols are the characters used to represent quantities, their relations, and the operations performed upon them. In this article will be considered, first, the nature of algebraic symbols; second, their classification; and third, their origin.

I. NATURE.—The symbols of algebra are in the main, arbitrary. They consist of conventional signs agreed upon to represent certain things without regard to any particular fitness of form or meaning. They are not all, however, absolutely arbitrary. In several instances there is a relation between the sign and the thing signified, which renders the symbol not inappropriate. There are also sometimes relations between the symbols themselves which commend their use. We notice this fact in the *symbols of quantity*.

It is, to say the least, not unnatural to employ the letters of the alphabet as representatives of

quantity. This was done in arithmetic by several of the nations of antiquity. The Greeks represented numbers by the letters of the Greek alphabet. They divided the twenty-four letters of their alphabet into three classes, and, by adding another symbol to each class, they had characters to represent the units, tens and hundreds.

The Latins used the letters I, V, X, L, C, D, and M to represent numbers. The Arabs for a long time employed the Greek method of representing numbers by letters. It was, therefore, quite natural and in accordance with the usage of the ancients to employ the letters of our alphabet to represent the general quantities of algebra.

The use of the *first* letters to represent *known* quantities, and the *final* letters to represent *unknown* quantities is not entirely arbitrary, but to some extent natural.

Known quantities come first in an investigation; they are given, and from them we pass to the unknown quantities. In the alphabet the letters *a*, *b*, *c*, etc., come first, and from these we pass to the final letters. Hence the relation of the symbols corresponds to the relation of the quantities which they denote, and the method is therefore natural and appropriate. To have reversed this order and employed the final letters to represent the known quantities, although it could have been done, would have seemed inappropriate and unnatural.

Several of the symbols also were suggested by the nature of the thing to be indicated. Thus, the use of two equal parallel lines, =, for the word *equals*; the symbol $\sqrt{}$, which is a modification of the letter *r* the initial of the word *radix* (*root*), to denote the root of a quantity; the symbols of *aggregation*, consisting of the *parenthesis*, the *vinculum*, etc., which by their form, to some extent indicate their use;—are all more or less intimately related in form or origin to the purpose for which they are employed. It is also natural that a series of quantities arising from the same law, or occupying similar positions in an expression should be represented by the same symbol, with some mark to indicate the difference; as a', a'', or a, a^2, etc. The symbol of *ratio* indicating that the antecedent is divided by the consequent, would naturally be some modification of the symbol of division. The similarity between the symbols of addition and multiplication, the one "an erect cross," the other "an inclined cross"—processes which are intimately related—is also noticeable; as also the similarity between the symbols of the other two relative processes, subtraction and division; the symbol of the former being a *straight line* and of the latter a *straight line* with a dot just above and below its centre. Fractional exponents to indicate roots grow naturally out of the method agreed upon to represent powers.

We see, therefore, that the language of algebra is not entirely conventional, but that there are reasons for several of the symbols which have been regarded as purely arbitrary.

II. Classification of Symbols.—Various attempts at classifying the symbols of algebra have have been made by different writers upon the subject. Brande, in his Encyclopædia, says: "Mathematical notation embraces two distinct subjects; namely, symbols of number and quantity, and symbols of operation." He presents all the symbols treated of under these two heads, regarding the symbol of equality—incorrectly, I think—as a symbol of operation. Most of the writers, both ancient and modern, content themselves with presenting the symbols without any attempt at the classification of them.

One of the earliest American authors who intimates a classification, is Hackley. In his Treatise on Algebra, after speaking of the use of letters, etc., he says: "These are symbols of quantity. The following are symbols of relation." And then, after presenting the symbols of relation and explaining exponents, roots, etc., he introduces the vinculum, parenthesis and braces, by saying: "The following characters are used to connect several quantities together, viz.:" etc.

The first attempt at an exhaustive classification which has met my eye—I have not made a thorough examination of the matter—is that of Prof. Henkle, in an algebra of which he is the author. He says. "*Algebraic Symbols* are of six classes: Symbols of Quantity, Operation, Relation, Aggregation, Continuation and Deduction." This classification was complete, and showed a thorough thinker, as does everything he prints or writes.

A subsequent author says: "The symbols employed in algebra are of four kinds—symbols of *quantity*, symbols of *operation*, symbols of *relation*, and symbols of *abbreviation*." The last term is not happily chosen, as all symbols are in one sense symbols of abbreviation. A Mathematical Dictionary published in this country adopts the same method.

Another popular author embraces the symbols under three classes—symbols of *quantity*, *operation* and *relation*. The symbols of *aggregation* and *continuation* are classed as symbols of *relation*, and the symbols for *hence*, *because*, etc., not classed at all. It seems to me that the

symbols of *continuation* should be placed under the head of symbols of *quantity;* the symbols of *aggregation* under the head of symbols of *operation*, and the symbols for *hence* and *because* under the head of symbols of *relation*.

That the symbols should be included under three heads seems unquestionable. We have *quantity*, and can *operate* upon it, and *compare* it, and this is all we can do with it; hence there can be only *three classes* of symbols. The difficulty in classifying is, to know where to place the symbols of *aggregation*, *continuation*, and the signs for *hence* and *because*. The signs for *continuation*, as already stated, should be regarded as symbols of *quantity* since they stand for quantities not expressed. The signs for *aggregation*, it seems, should be regarded as symbols of *operation*, since they indicate that the quantity is to be operated upon as a whole. The signs for *hence* and *because* are used in comparing, and therefore ought to be regarded as symbols of *comparison*, or symbols of *relation*. The method of classification which seems to me to be correct, and the reasons for it, will now be briefly stated.

The object matter of algebra is quantity. This is to be represented by symbols; hence we have symbols of *quantity*. Quantity can be operated upon, and the various operations denoted by characters; hence we have symbols of *operation*. Quantity can also be compared and its relations determined; hence the necessity of a third class, symbols of *comparison* or *relation*. To *operate* upon quantity synthetically and analytically, and to *compare* it in its different forms, is all we can do with it; hence these three classes embrace all the algebraic symbols which can arise. We have, therefore, three classes of symbols:

1. Symbols of Quantity.
2. Symbols of Operation.
3. Symbols of Relation.

The Symbols of Quantity are the *figures* of arithmetic and the *letters* of the alphabet. Known quantities are represented by figures and the first letters; unknown quantities by the last letters of the alphabet. The absence of any assignable quantity or a quantity infinitely small is indicated by 0; while the symbol ∞ denotes that which is greater than any assignable quantity, or a quantity infinitely great. *Accents* and *subscript figures* are sometimes attached to the symbols of quantity, to show that the values which they represent have a certain relation to each other which is preserved by the similarity of symbols, the difference of values being expressed by these signs. In cases where the performance of some operation involves a lengthened series of quantities, each derived from the preceding according to some fixed law, instead of repeating the entire series each time the sign of *continuation* ..... is written to represent the remaining quantities, after a sufficient number of terms have been given to show the law which governs the whole. Occasionally some other characters are employed to designate quantity, but these are all that are necessary in ordinary algebraic operations.

The symbols of Operation are: the sign of *Addition*, $+$; the sign of *Subtraction*, $-$; the sign of *Mutiplication*, $\times$; the sign of *Division*, $\div$; *exponents*, which indicate the raising to powers; the *radical* sign, $\sqrt{\ }$, which indicates that a root of the quantity is to be taken; and the signs of *aggregation*, including the *Vinculum*, the *Bar*, the *Parentheses*, the *Brackets*, and the *Braces*, which indicate that the quantities connected or enclosed are to be subjected to the same operation. The signs of aggregation may, therefore, be appropriately classed with the symbols of *operation*.

The symbols of relation are the characters used to indicate the relations of quantities. The principal signs of this class are the sign of equality, the sign of ratio, the sign of equality of ratios and the signs of inequality. The signs of deduction are used when the relation is inferred from some previous relation. It is evident therefore that they may be classed with the symbols of relation.

Teachers are respectfully invited to consider this classification now presented, and to compare it with others. The object of this article is not so much to decide which method is correct as to present the matter to the attention of teachers, that each, after a proper examination, may decide for himself. It is evident that modern teachers and text-books are in favor of adopting some system of classification, and the tendency seems to be toward embracing all the symbols under three general heads.

The next article will treat of the origin of algebraic symbols.

THE STUDY OF NATURAL HISTORY.

BY HOWARD WORCESTER GILBERT.

THE illustrious founder of this Commonwealth, who was fully two centuries in advance of his age in intellectual and ethical development, nearly two hundred years ago recommended the introduction of the study of natural history into schools. One of his reasons for so doing was that the pursuit of this science fosters close observation—the study

of things—and brings the student into the most intimate possible connection with the great life of the universe. Being a man of the highest culture, familiar with savant and student at Oxford, his taste for such pursuits had been developed to the highest pitch which was then attainable. This is shown by what he has written on the plants and animals of the unexplored region which he had selected as his future home, and the seat of his ideal Commonwealth, which surpassed that of Plato.

It is true he recommended that natural history be studied through a medium which we should not now think of employing for the purpose, his plan being to have treatises on the subject for beginners composed in the Latin language, a course which would facilitate both the study it was intended to promote and the attainment of a greater familiarity with the language through the medium of which it was to be pursued. And this fact, by the-way, gives us a glimpse of the superior thoroughness which was then regarded as possible, in contrast with the hasty and superficial culture which is becoming well nigh universal in these days of "improved education," when the almost innumerable facilities for the easier acquisition of knowledge, instead of producing larger results, are fostering reliance upon foreign aid and inducing intellectual inertia.

It is doubtful whether a teacher of natural history can be found within the limits of the commonwealth (at least one who is animated by a genuine love of the science), who would not promptly testify that he has found it a surer and more perfect means than any other of awakening the minds of dull and sluggish pupils, who could not be inspired with an interest in any other study. The infinite variety of beautiful forms and colors, and the exquisite odors of flowers, the graceful attitudes of aquatic plants, as they float upon the still water, or yield to the current, the elegance of the feathery ferns, and the delicate beauty of the creeping mosses, and the majesty of the mighty oak and lofty elm, are external features which strike even the unobservant and frivolous. The singular structure of the organs of plants, the wonderful facts of vegetable and animal physiology, the astounding revelations of an all-pervading order, if not of gradual development, which have been brought to light by the researches of the later science, afford a delightful field for intellectual exertion to the superior few, even at the outset—to all, in their measure, in a later period of their career.

No pleasure is cheaper than this, none purer, and it is certain to last as long as life endures. Of this there is no satiety, and it is probably quite as much owing to the healthy mental exhilaration it produces as to the invigorating exercise in the sun and open air attendant upon this pursuit, that the students of natural history are so proverbially long-lived.

It refines the taste and humanizes the character. We have never known a boorish student of natural history, nor one who was addicted to cruelty. The botanist spares even the flower he does not require for scientific purposes; and the ornithologist who should wantonly destroy a bird would be a phenomenon among his fellows.

We would recommend all teachers who are permanently located to commence the formation of collections in natural history. We have seen the room of a public school in a Pennsylvania town displaying all the beauty of a conservatory, rich with trailing vines and exquisite flowers, and this, we believe, in a great measure, through the contribution of rare plants by the pupils themselves.

Why can we not also have cabinets of our native birds, handsomely mounted, as well as an occasional specimen of the famous songsters of Europe, to stimulate still further the love of this delightful study?

It is quite certain that unless some such course is more extensively pursued than at present we shall fall still further behind New England, where the Agassiz family are rapidly developing an almost universal devotion to the study of natural history in all its branches.

DRAWING IN PUBLIC SCHOOLS.

BY LOUIS BAIL.

THE greatest delight of a child is to see. Seeing is the principal occupation of the infant during the first stages of conscious existence; it is the first of the senses that is recognized by the newly awakened mind. In a few weeks the infant learns, by observation, to recognize the smile of its attendant, and to distinguish familiar faces. In a few months he shows that he understands a frown, by quivering lips and by tears. Though not able to articulate, he has read the silent language of expression as delineated in the human countenance. In one year he acquires considerable knowledge of size and distance. He displays this knowledge in many ways: for instance, he does not try to grasp things too large for him to manage; nor attempt to seize an object beyond his reach. As soon as he is able to articulate, he expresses his approbation of pleasing objects. Now he is delighted with a

handsome toy. A picture has inexhaustible attractions; he expresses more delight in a picture representing the simple form or outline of an object than in a finished work. The outline picture is more simple, and is therefore more easily understood and best adapted to the understanding of the child; it accords with his first efforts in this direction, which are always composed of the most simple lines. He draws pictures of his pets as soon as he can hold a pencil; and though his dogs and horses look like four-legged stools, and his birds resemble a ball with four sticks inserted, he finds satisfaction in his work, and wants every one to see it, and recognize his ability. This proves that the early tendency of the child is to draw.

The child is a critical observer; quick to notice the peculiarities of any new person or object. His mind is wholly concentrated on the object of his interest, and if he is properly instructed by the presentation of the leaves of our common trees, and the various forms of plants, his perceptive faculties will be strengthened, and he very soon will be able to tell the names of our trees and plants, and if at the proper time he is directed in drawing these leaves, he will retain a permanent impression of their forms.

It is asserted that the child learns more during the first three years of his life than he learns in the same length of time at any subsequent period. Is not the cause of the greater improvement to be found in the fact that the child makes a natural and normal use of his eyes during his earliest years? The infant is allowed to see as much as he pleases; and no one will dispute that he looks to some purpose.

In the commencement of primary training we should not make a sudden division, or break from all the knowledge the child has already gained. We should follow the teachings of nature, build upon the knowledge previously acquired, and glide smoothly and easily to book learning.

When the time for primary education commences, the usual practice has been to ignore all former attainments. We have taken the child suddenly from playing and seeing, and placed a book before his eyes, with admonitions in this wise: "Look on your book Study your lesson"

The ability of the child has been taxed to the utmost to remember characters and words, which are often meaningless to his childish intellect, and the education that has progressed so smoothly and successfully is interrupted. The perceptive powers become weakened by inaction, if the child is not trained to habits of active and correct observation: in other words, if his memory is cultivated at the expense of his sight.

Drawing, if properly taught, is in direct connection with the early observation and habits of the child, and aids to systematize the knowledge already gained. It should, therefore, always be taught in primary schools. With the exception of music, it is the least artificial of the studies in our public schools.

It is a great advantage to young pupils if their teacher is able, by means of drawing, to delineate the form of common objects. Children feel an added interest and pleasure in anything they have seen drawn. It also incites them to try their powers of imitation.

In every position in life it is a great advantage to be able to express ideas of form and shape by drawing. A few lines will, in many cases, give a more correct and lasting impression of the object represented than any verbal description. We recall the form of an animal, tree, or flower that we have not seen in nature, by the picture, not by the verbal description. We find illustrations or pictures of all visible objects more permanent and impressive than words can be made.

Drawing cultivates the eye, and through the eye, the mind, in the memory of form; it assists the pupil to retain a clear impression of what he sees. Beautiful forms are presented to us in the frostwork of winter and in the verdure of summer. A child properly educated finds constant occupation in the contemplation of these forms.

Drawing cannot be over-estimated when it is considered as an aid in the acquisition and investigation of the natural sciences. To the instructor it gives the power of illustration, which is often the only available means of transmitting his ideas.

The benefits of drawing, heretofore named, are slight and incidental compared to those that accrue to the artisan and designer. These are now so well understood that it appears superfluous to repeat them.

In the unskilled production of labor, enduring muscle is the criterion of value. We have arrived at a period in which skill and intelligence are essential to success in every productive industry. The uninstructed laborer must take his place with the "hewers of wood and drawers of water," and content himself with a menial station in life. The American artisan must be educated, or he will gradually descend to the most rudimentary labor. It is true, that his natural genius and perfect freedom in choice of occupation, have caused him to surpass other nations laboring under the same educational disabilities; but he cannot trust

his unskilled powers in competition with trained labor. A nation that depends chiefly upon raw material for wealth and support, will find a constantly increasing balance in favor of the manufacturing nation with which it trades, and a constant decrease of material means. The products of the toil of the husbandman and miner are absorbed in this unequal con flict. It is wise in a nation to protect home productions by a judicious tariff; but we do not wish to pay a bonus for awkward and clumsy work. Most of us prefer a tasteful article at an advanced price. Even where there is an inequality in material value, the inferior article often has a greater commercial value, and is sold at a price in advance of the article of superior intrinsic worth. To illustrate this fact, we have only to look at the paper that lines our walls, the carpet that covers our floors, or at common articles of wearing apparel.

That nation will be richest that teaches its artizans to multiply, in the highest degree, the value of raw material. The manipulations of the educated artisan has multiplied the commercial worth of a piece of bone or ivory, until it was worth more than its weight in gold.

It is safe to assert, that if the money that has been absorbed in the discussion of a protective tariff, had been spent in procuring suitable instruction for our people, the country would never have had cause to deplore cold furnaces and silent spindles; nor would our specie have been filtered away in exchange for foreign goods. After so many failures, the people have got to learn that an industry cannot be erected by a decree of Congress, however wise that decree may be. No prosperous industry can be established until the workmen are educated to the skillful prosecution of that industry.

An eminent painter was once asked what he mixed with his colors to produce such superior tints; he replied, "Brains." It is true that in every avocation in life the value of our labor is increased by the brain-power we bring to bear upon it.

We owe to our artisans, no less than to our country, to establish a system of public instruction competent to make them more skillful than the workmen of other countries. A large majority of the sovereign people is composed of this class. In a country like ours, nourished and governed by the people, we may reasonably expect that the fullest provision will be made for the education of the artisans.

As a starting point, we must have a thorough system of drawing in our public schools. Not play drawing, nor fancy drawing, but a regular organized system, that is worthy of the recognition of our Legislature. We cannot expect that drawing will generally be taught until the Legislature decides that it shall be taught. We shall not cease our appeals to this body until drawing is taught by law in every school in Connecticut.—*Connecticut School Journal.*

TEACH GEOMETRY.

[The following extracts are from a letter addressed to Rev. Herbert Hill, by Dr. Arnold, of Rugby. An anecdote of Mr. Lincoln is also given which, we trust, may aid somewhat in inducing more of our teachers to "vote for Euclid."– Ed.]

"I WAS very glad to find that —— was to go to you; before I heard it, I was going to send you an exhortation, which, although you may think it useless, I will not, even now, forbear. It is, that you should, without fail, instruct your pupils in the six books of Euclid at least. I am, as you well know, no mathematician, and therefore my judgment in this matter is worth so much the more, because what I can do in mathematics, anybody can do; and as I can teach the first six books of Euclid, so I am sure can you. Then it is a grievous pity that at your age, and with no greater amount of work than you now have, you should make up your mind to be shut out from one great department, I might almost say, from many great departments of human knowledge.

"Even now I would not allow myself to say that I should never go on in mathematics, unlikely as it is at my age; yet I always think that if I were to go on a long voyage, or were in any way hindered from using many books, I should turn very eagerly to Geometry and other such studies. But, further, I do really think, that with boys and young men, it is not right to leave them in ignorance of the beginnings of physical science. It is so hard to begin anything in after-life, and so comparatively easy to continue what has been begun, that I think we are bound, as it were, to break ground into several of the mines of knowledge with our pupils, that the first difficulties may be overcome by them while there is yet a power from without to aid their own faltering resolution, and that so they may go on, if they will, with the study hereafter.

"I do not think you do a pupil full justice, if you so entirely despise Plato's authority as to count Geometry in education to be absolutely good for nothing. I am sure you will forgive me for arguing this, for I think that it concerns you much, and I am quite sure that you ought not to run the risk of losing a pupil because you will not master the six books of

Euclid, which, after all, are not to be despised for one's own very solace and delight, for I do not know that Pythagoras did anything strange if he sacrificed a hecatomb when he discovered that marvelous relation between the squares containing and subtending a right angle, which the 47th proposition of the first book demonstrates."

Authentic anecdotes of Mr. Lincoln generally relate to something worth preserving, and this, from the *College Courant*, strikes us as most practical:

"I read law," said Mr. Lincoln, "as the phrase is; that is, I became a lawyer's clerk in Springfield, and copied tedious documents, and picked up what I could of law in the intervals of other work. But your question reminds me of a bit of education I had which I am bound in honesty to mention. In the course of my law reading I constantly came upon the word 'demonstrate.' I thought at first that I understood its meaning, but soon became satisfied that I did not. I said to myself, 'What do I mean when I demonstrate more than when I reason or prove? How does demonstration differ from any other proof?' I consulted Webster's Dictionary. That told of, 'certain proof,' 'proof beyond the possibility of a doubt,' but I could form no idea what sort of proof that was. I thought a great many things were proved beyond the possibility of a doubt, without recourse to any such extraordinary process of reasoning as I understood demonstration to be. I consulted all the dictionaries and books of reference I could find, but with no better results. You might just as well have defined blue to a blind man. At last I said to myself, 'Lincoln, you can never make a lawyer of yourself if you do not understand what demonstrate means;' and I left my situation in Springfield, went home to my father's house, and stayed there until I could give any proposition in the six books of Euclid. I then found out what 'demonstrate' means, and went back to my studies."

President Gulliver, of Knox College, to whom the above was related by the President, then said: "If you will permit me, I would like to state the fact publicly. It will be most valuable in inciting our young men to that patient classical and mathematical culture which most minds absolutely require. No man can talk well unless he is first able to define for himself what he is thinking about. Euclid, well studied, would free the world of half its calamities, by banishing half the nonsense which now deludes and curses it. I have often thought that Euclid would be one of the best books to put on the catalogue of the Tract Society, if they could only get people to read it. It would be a means of grace." "I think so," said Mr. Lincoln, laughing, "I vote for Euclid."

SYSTEMATIC TEACHING.

MR. EDITOR: I heartily concur with the remark of Hon. E. E. White, "Hold yourselves first, then your pupils, up to system." Its importance certainly cannot be over-estimated. System is necessary to the successful prosecution of any business. As "order is heaven's first law," the first step in everything should be made systematically; so should the last and all intermediate steps. Every vocation in life should have a plan by which to accomplish its desired end. When this is not the case the progress made is generally very irregular. And it is believed that there is no profession that makes a greater demand for system than that of the teacher. The advantages where it is observed are great, and the disadvantages resulting from its non-observance are serious. When success attends the labors of an unsystematic teacher, it may be termed *an accident*.

But notwithstanding the great importance of systematic teaching we find many teachers engaged in the profession who teach without it. And it is thought that the profession itself is somewhat defective in its system, for each member seems to follow his own method of teaching and governing a school. Besides this, there is still, we fear, a little of the spirit of jealousy and want of harmony existing in the minds of some teachers, which is certainly a great drawback to the cause of education in our midst.

It is true, normal schools and teachers' institutes are doing a great work in the cause of systematic teaching and creating a spirit of harmony among teachers, and, the day seems not far distant when through their aid and that of other kindred influences the evils named may be entirely eradicated.

Unsystematic teaching is a great source of evil, especially in our *rural districts*, where there is so much changing of teachers. In some schools almost every year brings a new teacher. What may have been the course pursued by his predecessor, the new teacher knows not, often cares not. The school is for the time placed in his hands, and he will take care of it according to his sense of propriety, without regard to the former habits of his pupils. Thus there is a revolution brought about upon the introduction of every new teacher. Now it cannot be otherwise than that this want of system will tend to confuse the pupils. A new teacher, a new plan of teaching, a new set of rules, all to no profit, as much time is sometimes unnecessarily consumed in becoming acquainted with this new teacher, this new plan of teaching, and this new set of rules. Systematic teaching will do much to remedy this evil.

S. A. MCFARLAND.

THE price of a Bible in the time of Edward I. was £37, while the price of a day's labor was three-half pence; at the first rate it would take a laborer over fifteen years to earn a Bible. We cannot to highly appreciate the privilege of cheap books.

U. S. NAVAL ACADEMY.

[We are indebted for the following sketch of the course of study, method of determining grade, etc., of the cadets at the U. S. Naval Academy, to Midshipman WM. A. MARSHALL, of Lancaster, Penn'a., who recently graduated with honorable rank from that institution. He was appointed four years ago by Hon. Thaddeus Stevens, after a careful competitive examination. One feature of this appointment we cannot pass without mention. The Old Commoner, then the acknowledged leader of the House of Representatives, was everywhere known to be an uncompromising Republican, but in this instance he appointed to one of the most desirable positions in his gift the son of a life-long Democrat—a gentleman whose vote and voice has always been against himself—and that in a Congressional district whose majority for his own party, uniformly Republican, ranges from 5,000 to 6,000. *That son had passed the best examination!* There is a lesson in this that should not be lost upon our public men. Let merit bear the palm.—ED.]

A VERY good description of this academy, its buildings and grounds, together with an account of the course of study and drills, will be found in *Harper's Monthly* for July, 1871. It is intended here to give some brief description only of the internal arrangements and the course of education pursued by a cadet midshipman during his four years' course. Candidates are now appointed every four years, one from each Congressional district. Congressmen are at once notified when a vacancy occurs for their respective districts, and a candidate must be appointed in time to present himself for examination during the month of June, usually between the 20th and 30th of that month. Very many young men fail to pass a satisfactory examination on presentation at the Academy, when another appointment must be made in time for the September examination, which is conducted in precisely the same manner as that held in June.

A system of competitive examinations is now adopted in various parts of the country, the appointment being given to that candidate who passes the best examination in his district. In this way much trouble and expense can be dispensed with, as the examination can be made similar to that required to be passed at the Academy. Credit is due to the late Hon. Thaddeus Stevens for the introduction of this plan of competitive examination, before making his later appointments.

Upon arrival at the Academy, the candidate reports at the Superintendent's office, where he delivers his appointment papers, together with certificates of good character from the principal of the school which he attended, from his clergyman, and any other recommendation with which he may be provided. He is then required to present himself at the hospital for a physical examination, before a medical board composed of three surgeons. This examination is very rigid, and if any doubt exists as to his capability for the service, in a physical point of view, he is rejected at once. Upon passing this examination satisfactorily, he is required to appear before a Board, composed of officers attached to the Academy and some of the civilian instructors. This examination embraces reading, writing, spelling, English grammar, arithmetic and geography, and is both written and oral. If a candidate fails in any one of these branches, a second trial is given him before the Board, which latter is entirely oral. As soon as he is notified that he has passed the examinations, an amount of money sufficient to defray the expenses of his clothing and text-books must be deposited.

The "Constitution," a United States frigate moored alongside of the wharf, was formerly the quarters of the Fourth class, but within the last two years this class resides in the "new quarters" with the Second and Third classes, the "old quarters" being the home of the Senior class.

The Academic Year commences October 1st, and is divided into two terms of four months each.

The day is divided into three periods for study and recitations. Study hours commence in the morning at 8 o'clock, and last until half-past twelve, and during the afternoon from two o'clock to four. From 4 until 6 p. m., the cadets are exercised at seamanship—spars, sails, or boats—great guns, artillery, infantry, fencing, or carbine drill. The morning study hours are divided into two periods of two hours each, the first period lasting from 8 to 10 o'clock, and the second from 10½ to 12½ o'clock. Each period is devoted to a separate study—one half of the class reciting during the first hour of the period, and the remaining half during the second hour. At 8 o'clock in the evening the bugle sounds for study hours, which last until 9½ o'clock. At 10 p. m. all lights are put out, and every one must retire.

The course of instruction for the Fourth class consists of mathematics, embracing arithmetic and algebra, seamanship, practical instructions in knotting and splicing, ethics and English studies, comprising geography, grammar, ancient and modern history, and drawing—sketching and perspective, topographical and chart drawing. Special attention is paid to mathematics, which is commenced with this class and continued until the end of the first term of the second class year.

There are different instructors for the various departments of study, an officer not below the rank of Lieut. Commander being in charge

of the department, and the instructors acting as his assistants.

In all the departments, a regular system of daily marks is adhered to. Each cadet is marked upon his making a recitation. These marks range from 4 to 0; 4 indicates a perfect recitation; 3.5, very good; 3, good; 2.5, satisfactory; 2, poor, and zero, total failure. If the average of the weekly marks in any one branch of study fell below 2.5, the cadet was until recently required to study on Saturday afternoon. Within the last few months this punishment has been abolished, and in its place that of deprivation of liberty for that week, and also of giving "demerits," has been substituted.

For every offense committed, a certain number of demerits is given, depending upon the nature of the offense. The number ranges from ten to two, which limits cannot be exceeded. Beside receiving demerits, the cadet was required during recreation hours to perform guard duty with a musket, a certain length of time for every demerit. This additional punishment was abolished in Dec., 1870, and now demerits alone are given. If any cadet of the fourth class has over three hundred demerits for the academic year, two hundred and fifty in the third class, two hundred in the second, or one hundred and fifty in the first, the case is brought before the Academic Board, and it rests with them to find the cadet "deficient" or not.

On Sunday, all the cadets are required to be marched by mess crews to the chapel, where divine service is held. At the close of the academic year, the three classes remaining at the academy go aboard the practice ships, two sloops of war, the "Constellation" and the "Saratoga." Some years a foreign cruise is taken, but at other times a cruise along the Atlantic border is preferred.

During these cruises, the cadets are taught everything necessary in the management of a vessel by sails; the junior classes handling the sails aloft while the senior class performs the duties of officers, taking charge of the deck, performing different evolutions, etc. Great attention is paid to practical navigation during the cruise, as there are better opportunities afforded then than at the academy.

The course of instruction for the third class consists of seamanship, gunnery, mathematics, geometry, trigonometry and descriptive geomtry, drawing, history, rhetoric, French and Spanish.

The manner of conducting the recitations and study hours is similar to that of the fourth class. The study of seamanship and gunnery is commenced with this class, and continued throughout the remainder of the academic course. A very rigid oral examination is had annually in each of these studies..

The studies for the second class are seamanship, gunnery, steam enginery, astronomy, navigation, analytical geometry, calculus, mechanics, French and Spanish. Almost all the studies from this year until the end of first class year are professional; and great attention is paid to the three studies: seamanship, gunnery, and navigation. Mathematics being finished with the end of the first term of this year's course, additional recitations in navigation occupy the time before devoted to it.

The first class studies are seamanship, naval tactics, gunnery, steam enginery, navigation, the principles of marine surveying, physics, international law, French, naval architecture and construction, and Spanish, until the close of the first term. The study of physics is kept up the whole year, part of the time being devoted to lectures, in which very fine illustrative experiments are shown.

During the last term of this year, the greater part of the time set apart for the study of steam enginery is devoted to practical exercises—taking charge of a large marine engine and performing the general duties of engineer. Instruction in this department during the first term is from text books and lectures, there being four assistant engineers detailed by the Navy Department as instructors, also a chief engineer to take charge of the steam department.

On conclusion of the annual examinations, the standings are made out in each study for each cadet, and the cadets are arranged in the next class according to their grade. These standings are determined according to a regular system. A certain multiple is had for each study, ranging in value according to the importance of the study—deportment having the highest multiple; the professional studies a multiple somewhat less, and the minor studies the least. The cadet standing lowest in any study receives one-third of the multiple for that branch, and the cadet standing highest the full multiple, the remainder of the class ranging in grade according to their respective standing between these two extremes. This standing is made out for each study and the sum of all these multiples grading from the highest of these sums, determines the class grade of each cadet on promotion or graduation. The final or graduating standing is the sum of all these multiples for the four years.

There are employed in all, including the heads of the several departments, upwards of fifty instructors, most of them men well ad-

vanced in years, and all highly proficient in their several branches. The department of seamanship employs four; that of gunnery, four; navigation, four; mathematics, six; physics, three; drawing, three; English studies, eight; French, five—all of them Frenchmen; Spanish, three—two of them native Spaniards and the third a Scotchman who speaks the language with the fluency of a native; and steam navigation, five, a large engine being found in this department, which the cadet is required to run, so that when he goes aboard a vessel in service he may understand, not only in theory but also in practice, everything connected with its management. In addition to the instructors named there is, as has already been stated, a chief or head for each of the departments. Those instructors detailed by the Navy Department for duty at the Academy are paid according to their rank. Civilian instructors, who must be the best of their class, also receive remunerative salaries.

The classes at the Academy, at the close of the last year, numbered in all two hundred and thirty-three cadets, as follows: First class (graduating,) 47 members; Second class, 27; Third class, 53; Fourth class, 106. The graduating class on entering, four years ago, numbered 96 members; at graduation the number had fallen off to 47. Some of these had been in attendance at the Academy for five and others for six years—cadets being rigidly reduced who cannot pass examinations. The average age of the graduating class is twenty-one years. The average age of cadets upon entering is seventeen years.

The average cost to the Government of each cadet midshipman, during his four years' term, is estimated at from $16,000 to 18,000. Each cadet is paid $500 per year during his term at the Academy, out of which all ordinary personal expenses are to be defrayed. An exact account is kept by the paymaster, and the cadet supplied with a pass-book in which he must receipt monthly for everything that has been supplied to him. Each class has its base-ball club of nine members and its boat crew of four members, all selected by the class. Their practice in playing or rowing must be outside of study hours. [The modesty of our young friend prevents his saying that he was a member "in good standing," of both these clubs.-Ed.] The trainer of the Class crew of 1871 was Mr. Blakie, referee in the famous international race of two years ago, between the American and the English crews of Harvard and Oxford.

There are now at the Academy two cadets from Japan, sent by the Japanese government at the modest fee of *twenty thousand dollars* each, for the four years' course. They are both of high rank, and one of them who speaks English fluently, excels greatly in all the mathematical studies. He looks forward to the position of admiral in the Japanese navy immediately upon graduation. Two or three more Japanese are, we believe, expected at the Academy. Japan seems the foremost of Mongolian nations, and the results of the training which these young princes are now receiving at Annapolis will doubtless be felt in her augmented national greatness.

TEXT-BOOKS ON SPELLING.

MANY educators in our land believe that spelling should be taught in connection with reading, and that no text-book on spelling is necessary. Many others maintain the opposite view. We believe with the latter, that text-books on spelling, or spelling-books, are absolutely necessary in *all* our common schools; and, if we use spelling-books at all, it is highly important that we have *good* ones. The paramount object of authors on this subject should be, we think, to teach correctly both spelling and pronunciation. Many other things are proper to be taught in a spelling-book, but, in our opinion, all others are of less importance than these. The failure in regard to pronunciation, so far as our observation extends, is very great. Many popular authors have scores, and sometimes hundreds, of words in their spelling columns without any instruction as to how the words should be pronounced. We take the view that in a spelling-book designed for a common school, the pronunciation of every word and syllable in the regular spelling lessons, should be designated with as much accuracy as is done in our best pronouncing dictionaries. We think a very judicious arrangement for a spelling-book would be to have it in three parts, or perhaps in three separate volumes, as follows: Part I, to contain easy words, of not more than two syllables; Part II, to contain such as are in reputable colloquial use, or in good use by common writers; Part III, to contain selections of words from elegant writers, and a tolerably large list of words spelled differently but pronounced nearly alike, and also a list of words pronounced nearly alike but differing by nice shades of distinction, such as, real and reel, tracks and tracts, etc. And, in order to prevent narrow, one-sided views, it would be well to have a small list of words that are spelled or pronounced differently, or both, by good authors, giving the authorities for the different

modes. For convenience of reference the words should be arranged alphabetically or in some other systematic way. "Dictation exercises," as they are termed by some authors, we think very good. The only objection to these is, that they increase the size of the volume, and consequently enhance its price. There are many other things it would be proper, perhaps, to insert, such as primitive and derivative words, prefixes, suffixes, etc. In selecting spelling books for common schools, it seems to the writer that the points already mentioned deserve to be considered by all parties interested in their use.

R. CHADWICK.

Emporium, Pa.

TRUANCY.

BY GEO. D. HUNT.

TRUANCY is one of the evils that are sources of great vexation in many schools, and it is more so because the teacher has not the means of knowing in all instances whether the pupil is not kept from school for sufficient reasons, reasons about which it would be deemed impertinent for him to inquire. Pupils often exult in deceiving their teacher with the plea "that they are needed at home," when, in fact, their dislike of the school, or their preference for idle sports, is the true cause of their absence. How to prevent this evil is a question often discussed at teachers' meetings; and it is a subject of deep concern to every person who has at heart the general welfare of common schools and the inculcation of steady habits in the young.

The causes of truancy are:

1. A dislike of the teacher, especially his austere habits and lack of congeniality.

2. A dislike of study and the confinement of the school.

3. Outside temptations of various kinds.

The second and third of these causes are beyond the teacher's control; and he cannot justly be held accountable for them The first is an important matter for self-examination to every teacher, for no one can be excusable for allowing himself to be an object of unwarrantable prejudice on the part of his pupils. But prejudice against a teacher is apt to spring from a dislike for study and a lack of appreciation of the worth of learning. Where there is a real desire and a capacity for learning, the teacher is greatly in fault if his sympathy for the pupil does not draw him to the school and engage him in a faithful compliance with its regulations. The pupil who loves study will not absent himself from school, and he will excuse some of the foibles of his teachers; but all children are not of this quality, and all must be educated.

All who are qualifying themselves for the profession of teaching should consider well their congeniality with the minds of children, and their ability to interest, as well as to exercise a judicious control over them. If they find themselves deficient in these particulars, they may reasonably doubt their calling to this profession. But in these, as well as other things, no one is perfect; and there are but few who are not susceptible of some improvement, and neglect of constant improvement is inexcusable.

No teacher can justly be expected to assume unlimited responsibility for the attendance and advancement of his pupils. They must in some way be made to see for themselves the consequences of their neglect of duty. To do this is a great part of the work of schools; but it must not all be imposed on teachers. Parental responsibility is not released by superior qualifications on the part of teachers.

To prevent truancy, and secure attention to study, parental co-operation must be had; and school boards must establish and sustain wise and efficient regulations in their schools. Compulsory attendance is, by many, regarded as impolitic, while voluntary attendance and study are approved by all. Make the school room a pleasant and attractive place, then will children delight to assemble there; let the teacher show that his heart is wholly engaged in the work of instruction, and that he has a deep and earnest desire for the welfare of his charge, and then his pupils will learn.

To attend school and engage in study because the pupil is compelled to attend is only a little better than a total neglect of moral and intellectual culture, yet attendance under any circumstances may in the end lead to study from right motives. If children are to be properly educated, the co-operation of all who are directly or indirectly concerned must be engaged. We cannot do too much for their improvement, but there is danger of not doing enough. It is bad policy to depend on teachers to remove all the evils that are encountered in training the young. Parents and school boards should do what they can to make the teacher's efforts accomplish as much as possible. And in nothing can they do more than in securing regular attendance and diligence in study, as well as obedience to wholesome and necessary discipline.

CAPILLARY ATTRACTION.

AN OBJECT LESSON FOR THE SCHOOL ROOM.

IF teachers desire to make science attractive to their pupils, they must make it familiar, and show its applications to the numberless transformations of nature and art. It is, therefore, not sufficient that a pupil should read in text-books about *water* rising in small glass tubes above the surface in which they may be immersed, nor of its elevation between panes of glass in an inclined position; but let the teacher bring the subject home to daily observation, by means of specimens selected from the vegetable kingdom, under circumstances adapted to arrest and awaken attention.

Let us suppose a little girl has brought to the teacher's desk a charming boquet of flowers, which through inattention, or his many pressing duties, has been suffered to remain there a short time during the heat of the day. The beautiful tints begin to fade, the petals decline from their erect position, and the offering of affection begins to be viewed by the giver as an unappreciated present. But an expedient just occurs to the teacher, which, while it affords an opportunity of recognizing the value, will, at the same time, illustrate an important principle of science. A small vessel is at hand, and having been supplied with some water, the flower-stalks are inserted. For a few moments the attention of the class is directed to another subject, during which interval an influence like magic has been at work. The flowers have regained nearly the same freshness as when plucked from the parent stems.

The teacher seizes the opportunity to illustrate *Capillary Attraction*. Holding up the flowers, and exhibiting them to the class (of whom the little girl is one), he remarks: "You see this beautiful boquet, that a few moments ago was wilting and fast becoming discolored. Can you tell me what has produced this change? You see the colors are almost as gay and bright as when first laid on the desk this morning." Every eye brightens at the exhibition, but the class can scarcely realize the transformation. "The water," is the obvious answer. But another question readily occurs to the inquiring mind: "How did it get into the flowers—even into the very extreme petals, in so short a time?" This is a mystery, until explained by the teacher, and the fact stated that the fluid was pumped up by the *fine capillary tubes* existing in the flower-stalks, and by them diffused over every ramification of the flower.

While stating this fact, he told them it could be tested by any one of the class, by first measuring the water before the bouquet had been inserted, and after its removal, when the falling of the water would have been very perceptible. Thus, the class see before them how beautifully the principles of philosophy are applicable to development in the growth of vegetables, from that of the insignificant fern or moss, to the great oak of the forest; from the track of the small rivulet in the meadow

"That with a livelier green
Betrays the secret of its winding course"—

to that field of waving green, on which the hope and joy of the farmer rest with such unalloyed gratification. It may be explained with great propriety to a class of pupils, that all the processes of vegetable expansion, where not only the subtile fluid without the admixture of nutritious particles is made to exert its vivifying power, but by the same wonderful process of capillary attraction, the very essence of manure, in its fluid state, all that is valuable in fertilizing the soil and nourishing an innumerable variety of plants, constituting their growth and development, owes its efficiency to those very capillary tubes, which not only form the basis of the blossoms that beautify the landscape, but are also the agency through which all vegetable growth goes forward, which

"Live through all life, extend through all extent,
Spread undivided, operate unspent."

W. K. J.

SUPERFICIAL STUDY.

M. H. CURTIS.

THE method of study practiced by many pupils and permitted by too many of the teachers in country schools, is very superficial. This fact is often and painfully realized in organizing classes in a new school at the beginning of the term. Most country schools have different teachers every term; and when the new teacher takes charge, he usually finds that the *advancement* of many of the pupils in their books is no evidence of a corresponding *proficiency*. He finds some who have been through, or half through, their text-books, and yet are partially, or sometimes entirely, ignorant of the primary principles of what they have pretended to learn. One has been half way through arithmetic, and cannot perform short division; another has "skimmed over" two-thirds of geography, and cannot bound his own State; another has stumbled far on in grammar, and is utterly incapable of parsing half a dozen words in the simplest exercise.

As these deficiencies become apparent, classes must be re-arranged and frequently new

ones formed, and re-formed, until the school at last is tolerably classified into working order.

Probably much of this most aggravating state of things is due to the indolence or forgetfulness of the pupils; but does all the blame attach to them? The candid and close observer must emphatically answer, no! Much of it rests upon teachers, and indirectly upon parents also. Too often there is a low standard of excellence in teaching; in the minds of both, a false and most ruinous idea of what is progress in studies. There cannot be too great zeal on the part of either of these classes of persons, but there frequently is too little discretion. Parents too often charge their children to "go through the book this term," and urge the teacher to the same effect. To gratify this wish would be very well, could it be done, and *well done;* but what is done in haste is frequently done ill. Many teachers forget this fact, and are weak and inconsiderate enough to humor the whims of thoughtless parents, against the dictates of their own judgment, for the sake of a little brief local popularity, thinking and caring not what additional and needless labor they entail upon earnest, independent and conscientious teachers who may succeed them. The teacher who aims to be true to himself and his profession, as well as to acquire a solid reputation, must consider, not what some falsely ambitious parents may wish in regard to their children's studies, but what is for the best interests of the children themselves, remembering it is this which will ultimately gratify all parents most, even if it renders some few dissatisfied at present. It seems to be the general spirit, if not the letter, of the school law, that the teacher, and he only, shall direct the pupil's course of study in the common, or ungraded school. Teachers, then, should regulate the matter according to their own judgment, subject only to the control and suggestions of the school authorities.

The standard of excellence in learning should be not "How much, but how well." That is the true measure of proficiency—the proper motto to be commended to the pupil. If he can be persuaded or encouraged, or compelled, to learn much, and also learn it thoroughly, it is well; but let him be made to learn it thoroughly, be it much or little. Then he is making good progress, whether the scope of his learning extends over two pages or twenty pages of the book per week. "Why?" is a question that can scarcely be put too often at recitation. Reviews are seldom had too frequently. If the blackboard were employed more, and pupils required to demonstrate what they recite; to give a rule or a sufficient reason for everything, we should have less complaint about the inefficiency of the common schools, and a far more useful and educated class of young people would be given to society. Every lesson should be *known* and *understood*, not merely "looked over" to recite. This rule should be strictly enforced; it should be impressed on the pupils that the object of studying each lesson is to remember it for a life time, and apply it if necessary in actual business.

Let the teacher fix his standard high, and work up to it faithfully, and his efforts will command an increase both of honor and profit, with the happy consciousness of having discharged his duty.

CLOSING SCHOOL.

BY J. N. BEISTLE.

THE time is again here when teacher and pupils have brought their year's work to a close, and are now enjoying their annual vacation. The many little incidents and events that transpired, what was said and done, how much was accomplished, afford subjects for thought; and we trust will bring up many pleasant recollections. The day for closing school at length arrives—a time anticipated with so much interest as the festive day of the term. Morning dawns, and before the appointed hour we may see wending their way toward the school building, bright-eyed lads and misses, and eager parents, anxious to witness the exercises and attest the progress of their sons and daughters.

The school room is nicely arranged for their reception. Around the walls hang wreaths of evergreens, on the teacher's desk are bouquets arranged with artistic skill. The programme for the day has been carefully arranged, assigning for each exercise a proper place and appropriate time, all things are in perfect order and manifest system, energy and zeal on the part of the teacher, and cheerful assistance and ready compliance on the part of the pupils. The day passes, school has closed, and patrons, pupils, and teacher return to their respective homes satisfied with the effort and result, with pleasant thoughts and kind wishes for each other, feeling that it was good to be there. The teacher goes away conscious that he had the co-operation of the parent and the good will of the pupil, and knowing that the classes stood upon their own merit and that the success of the day was the result of long-continued effort in study, directed with a fixed object in

view, viz.: To do well, and become thorough. The marked good feeling on the part of the pupil and parent is indicative of the fact that there was mutual interest in the work. The teacher who has gained this point, that is, secured the co-operation and sympathy of all parties interested, has, we believe, *secured* the passport to true success in teaching.

Fellow teacher, how did you close your term of school? Did your number dwindle away and the pupils lose interest in their work? or, was your closing day a fair index of a successful term's labor?

THE BRANCHES OF STUDY.*

ADDITIONS TO THOSE NOW REQUIRED BY LAW.

WHEN Agesilaus, king of Sparta, was asked what he would recommend boys to study, he replied: "That which they will use when they become men." So, in arranging a course of study for our common schools I would include those branches which children will use when they become men and women. All will agree that the branches now required by law are indispensable, with possibly one exception. Of this I will speak hereafter. But are these the only branches that ought to be included in a course of study for our common schools? The object of the common school, as I understand it, is to prepare the children of the State for the duties which must devolve upon them in after life—to make good citizens.

It would seem that every citizen should understand the *history* of his own country, as well as its geography. They are so closely connected that if one is important so is the other, and, if properly taught, a knowledge of both may be acquired with a very slight addition to the time required for obtaining a knowledge of one. Nearly every history lesson can be made a lesson in geography, and *vice versa*. But, of course, this is not the place to point out the methods of teaching. There is probably no kind of knowledge that the citizen will more frequently use than that of the history of his own country. Why not, then, have it taught in our common schools, so that every child may become acquainted with it?

Book-keeping is another branch that all should understand. The day-laborer, the farmer and the mechanic should know how to keep correct accounts, as well as the professional man and merchant. Obedience to the divine injunction, "Deliver all things in number and weight, and put all things in writing that thou givest out or receivest in," would save a great deal of litigation and unpleasant feeling among neighbors. If all knew how to do it, and would keep correct accounts of their receipts and expenditures, it would greatly diminish the number of bankruptcies, would render the people more frugal in their personal and domestic expenses, and prevent vast accumulations of indebtedness. A great deal of time is spent upon the study of arithmetic, that children may become qualified for the ordinary duties of life, and for the transaction of such business as they may have occasion to engage in. But it is thought that a portion of this time might be given to book-keeping, and the same important object more speedily attained. Pupils study arithmetic year after year, sometimes going over and over it time after time, and yet fail to obtain that thorough knowledge of the subject that would enable them to work with readiness and accuracy any question that might come up in practical life. Now, would not the study of book-keeping help them to see the practical application of the principles of arithmetic, and thus facilitate their efforts in acquiring a knowledge of that important branch? It seems to me that, as in the case of history and geography, a knowledge of book-keeping and arithmetic may be acquired with very little more expenditure of time than is now taken to obtain a knowledge of the latter.

Physiology is a branch of study that ought also to be understood by all. You remember the ancient Greeks wrote in golden letters, over the arched way of their Academy, that maxim of maxims, "Know Thyself." If this maxim were now more generally carried out in practice, as it is admitted in theory, it would be a happy thing for our race. A knowledge of the human body is necessary, to know how to take care of it; to know what it is capable of performing, and how much it can endure. Nine-tenths of the ills, the aches and pains of life are traceable to the violation of some law of nature. Ignorance of our own bodies is the direct cause of more suffering and disease than all other things combined. We are becoming a puny, sickly race, through a lack of the knowledge and proper observance of the hygienic laws. Let physiology be taught in all our public schools; let pupils be schooled in the observance of the laws of health, and its good effects will soon be noticed in the increased health and longevity of the race.

Drawing is another study, some knowledge of which no one, whatever may be his occupation, can afford to do without. It is useful to persons engaged in almost every department of labor—to the architect, the master builder, carpenter, mason, cabinet-maker, the florist, embroiderer, milliner, the potter, and the machinist. No boy who expects to become a skilful mechanic can afford to do without a knowledge of this important art. The order of Napoleon I. requiring drawing to be taught in all the schools of France, increased immensely the *wealth* of that nation, and added much to the skill and taste of its people, as displayed in the cultivation of the fine arts. Were it introduced and successfully taught in all the schools of this State, it would no doubt greatly increase its wealth, and add much to its material resources.

The influence of *Music* is so refining and ennobling to human character, that I am inclined to name it as one of the branches to be taught in the common schools. It refines the taste, cultivates the finer feelings of our nature, and has a happy and elevating influence upon the school. Wherever it has been tried in the school-room, it has been found to be a powerful aid in preserving good order. Who can estimate the power of music? How it thrills you with emotion! How it melts to tears, the human voice! What a wonderful instrument! And shall it be allowed to go untuned?

You ask if I would add all these to the branches now required by law to be taught in the common ungraded school. I answer, No. There is not time for all these in the ungraded school. How then shall they be taught to the children of our public schools?

How far the State should go in furnishing an education to its children is a question on which there is some difference of opinion. Our own opinion is that it should not only instruct in the common branches, but that it should furnish the means for every child within its limits to acquire an education in the arts, in the sciences, and in language, as good an education as any college in this land is able to furnish. The door should be thrown open for

* This paper by Mr. W. M. Lindsey, County Superintendent of Warren county, was read at the late Convention of Superintendents held at Harrisburg.

every boy in the State, be he rich or poor, to go up through the common school, the high school and the university, and all free as the air we breathe or the water we drink. Now, to this end, I would have all our schools graded, in the country as well as in the borough and city. I would require the board of directors in every township to establish one high school in the centre of the township, or at the most accessible point, where the above named branches and others should be taught. This school would receive the advanced scholars from all other schools in the township. The principal of the high school might be made district superintendent. We are now, and have been for some time, erecting magnificent city and borough high schools. Let our country schools be graded, a State university established and liberally endowed, and our school system will be complete. Then, and not till then, will the State have discharged its whole duty. Our country schools will then be feeders to the township high school, the township high school to the borough and city high schools, and they in turn to the State university. But you tell me that the great majority of our youth will never go beyond the common district school. In this school they must get their education. How then are they to get a knowledge of the branches above named which you deem so essential to all? 1. I would require every teacher to have a thorough knowledge of all these branches, and to pass an examination in the same. 2. I would require them to teach these branches in the common schools by a series of oral lessons. In this way a fair knowledge of these branches might be obtained by the scholars of our public schools, equally as good, if not a better knowledge than of the common branches. An oral lesson in some of these branches when the pupils have become weary with hard study, or a lesson in vocal music from the blackboard, would stimulate the pupils, quicken their perceptive faculties, and render them capable of accomplishing even more in their regular studies.

There is no reason why a boy should spend six or eight of the best years of his life in going over and over the same rules in arithmetic or grammar. I believe if other branches were introduced and taught in the manner indicated above, it would give such life to school-room work that a knowledge of the common branches would be gained in less time than it now is, while at the same time a fair knowledge of the other branches might be obtained. A teacher of long experience, now teaching in this county, who has been giving instruction in botany and physiology the past term, by means of oral lessons, told me she never introduced anything into her school that created so much interest and enthusiasm. Said she, "My scholars are getting a great deal of practical knowledge, and they are doing better in their regular studies than they ever did before."

Thus, it seems to me, with well qualified teachers, a knowledge of the elements of all the branches I have named, and even more, might be acquired by the pupils in our public schools, with no prejudice to the common branches now required by law. A few words now in reference to grammar. I am inclined to think that as now studied grammar should be discarded from the curriculum of common school studies. In place of the text-books now used, I would introduce a primary work that would teach children how to talk properly, a little work that would give a few rules in reference to the use of language, with the more common mistakes corrected, and leave grammar proper until a later period in life. I am strongly convinced that the time spent in the study of grammar, with the text books now used, is almost wholly lost. Let the teachers be careful to correct all mistakes, and to use correct language before the pupils, and with such a work as indicated above for a text book, I am confident the pupils of our common schools would acquire a better use of language than they now do, and would have more time to give to the study of other branches. With these few thoughts, hastily thrown together, I leave the subject in the hands of the convention

The limits assigned to this report preclude any further elaboration of the items herein described.

"BE A WOMAN"—A SCRAP OF LITERARY HISTORY.

After a poem has been going the rounds of the newspapers for a dozen years or more, and has gained admission into the hearts as well as the scrap-books of the people, it may undoubtedly lay claim to popularity, whatever may be its merits or demerits as a work of art. Present popularity is not, it must be admitted, a sure test of merit: the most popular things are not always the best, nor are the best things always the most popular. It is only permanent popularity, like that of Gray's Elegy, or Wolfe's burial of Sir John Moore, that settles the question. And yet if a person has valuable thoughts to express, even temporary popularity is desirable; for it is the Archimedean fulcrum that moves the world. It is a grand thing to strike the keys of the popular heart and call forth its mighty harmonies.

If we glance through our collections of popular literature, we shall be surprised to find how many literary gems, any one of which would serve as an author's passport to immortality, are ascribed to that mysterious nonentity "Anonymous." A thousand argus-eyed critics have sometimes tried in vain to discover the parentage of one of these orphan children of the mind. In other cases, we are able to stamp the author's name upon his wandering offspring. This is what I propose to do in the case of a little poem, entitled "Be a Woman"—one that has been printed in hundreds of periodicals, and been read by hundreds of thousands of people. It has even crossed the ocean, and found a lodgment in the hearts of the mothers and daughters of England—an evidence of which fact I now have before me in a bound volume of a little London magazine entitled "Chatterbox."

This poem was written in 1857, for the *Normal Review*, a little paper sustained by the Normal Literary Society, of the State Normal School at Millersville, and was printed anonymously in the Lancaster *Weekly Express*. It was in answer to a poem of much merit, entitled "Be a Man," by Miss E. McV. Budd, now Mrs. John G. Moore, of Philadelphia. Its beauty was at once appreciated, and it has ever since been floating hither and thither on the tide of popular favor. Among the literary men who recognised its merits may be mentioned the poet editors, N. P. Willis and George P. Morris, who published it with favorable comments in their paper, the *Home Journal*. During my editorial experience I frequently met with it in my exchanges; and subsequently, when attending an entertainment given by one of the female grammar schools in Baltimore, I heard it read and earnestly commended to the attention of the young ladies by a gentleman of wide and liberal culture.

It seems to me that this fugitive production has by this time demonstrated its right to exist. The author probably dashed it off without much thought, in some happy moment of poetic inspiration, not dreaming that it would ever be known beyond the occasion that gave it birth; but he struck the key-note of popularity, and produced a poem that has exercised and will continue to exercise a powerful influence for good, and that has doubtless inspired thousands of daughters with a higher and

purer ideal of womanhood than that represented by the typical "young lady of the period." I have therefore concluded to offer it for republication to the journal that first gave it to the world, with the name (and it is by no means an obscure one) of the author prefixed. Many of the papers have sadly mutilated it, omitting the last stanza—one of the best—entirely. The following copy has been compared with the author's manuscript, and is correct in every particular. J. W. W.

Millersville, May, 1871.

BE A WOMAN.

BY PROF. EDWARD BROOKS.

Oft I've heard a gentle mother,
As the twilight hours began,
Pleading with a son, of duty,
Urging him to be a man;
But unto her blue-eyed daughter,
Though with love's words quite as ready,
Points she out this other duty,—
"Strive, my dear, to be a lady."

What's a lady? Is it something
Made of hoops, and silks, and airs,
Used to decorate the parlor,
Like the fancy mats and chairs?
Is it one that wastes on novels
Every feeling that is human?
If 'tis this to be a *lady*,
'Tis not this to be a *woman*.

Mother, then, unto your daughter
Speak of something higher far
Than to be mere fashion's lady—
Woman is the brightest star.
If you in your strong affection
Urge your son to be a true man,
Urge your daughter no less strongly
To arise and be a woman.

Yes, a woman! brightest model
Of that high and perfect beauty,
Where the mind, and soul, and body,
Blend to work out life's great duty.
Be a woman! naught is higher
On the gilded list of fame;
On the catalogue of virtue
There's no brighter, holier name.

Be a woman! on to duty!
Raise the world from all that's low;
Place high in the social heaven
Virtue's fair and radiant bow;
Lend thy influence to each effort
That shall raise our nature human;
Be not fashion's gilded lady—
Be a brave, whole-souled, true woman.

—*Lancaster Express.*

EDITORIAL DEPARTMENT.

Pennsylvania School Journal.

LANCASTER, AUGUST, 1871.

J. P. WICKERSHAM, J. P. McCASKEY.

THE MEETING AT WILLIAMSPORT.

We publish below the detailed programme for the August meeting of the State Teachers' Association at Williamsport. It will be seen that the Executive Committee have secured the presentation of such educational matter as is of great and universal importance at this time. The subject matter to be presented will elicit not only valuable and interesting discussions, but will require an expression of opinion on the part of the Association more in keeping with its deliberative character. The time of the Association will be thoroughly occupied, and it is hoped that none will be wasted, where every moment is of such importance. The newspapers throughout the State have heretofore heartily responded to our request to call attention to the programme, and we hope they will again in a similar manner oblige the Association and the Journal.

STATE TEACHERS' ASSOCIATON.

THE Eighteenth Annual Session of the Pennsylvania State Teachers' Association, will be held in the Academy of Music, in the city of Williamsport, on the 8th, 9th, and 10th days of August. The following programme of exercises will be as rigidly adhered to as circumstances will permit:

PROGRAMME:

TUESDAY, AUGUST 8TH.

9 A. M.—Meeting of Executive Committee in the Academy of Music.

10 A. M.—Organization and opening.

10:30 A. M.—Address of Welcome, by Rev. A. R. Horne, City Superintendent of Williamsport. Reponse by members of the Association.

Report of the Local Committee of Arrangements as to accommodations, etc.

Enrolment of members. Business.

AFTERNOON SESSION.

2 P. M.—Business, etc.

3 P. M.—Inaugural Address, by the President, Prof. A. N. Raub, of Lock Haven, Pa.

Resolutions of respect to the memory of

Dr. Thos. H. Burrowes and Wm. F. Wyers, by Hon. J. P. Wickersham. Addresses by members of the Association.

EVENING SESSION.

Essay.—Our Daily Bread. Miss Jennie Reighard, Williamsport, Pa.

Report.—Relation of Common Schools to Colleges. By Prof. Geo. R. Bliss, Lewisburg, Pa.

Address.—A Retrospect of the Pennsylvania School System. By Hon. H. C. Hickok, Philadelphia, Pa.

WEDNESDAY, AUGUST 9TH.

MORNING SESSION—9 o'clock.

Opening exercises.

Report.—German-English Education. By Prof. D. E. Schœdler, Broadheadsville, Pa.

Discussion of report.

Report.—By Prof. Chas. H. Verrill, Mansfield, Pa.

Report of Committee.—A Graded Course of Study applicable to Schools of all Classes. Col. G. F. McFarland, Chairman, Harrisburg.

Discussion of report.

AFTERNOON SESSION—2 o'clock.

Report of Committee. State Board of Examiners, and State Aid to Permanent Teachers. By A. O. Newpher, Chairman, Millersville, Pa.

Discussion of report.

Report.—The Next Step. By S. C. Shortledge, A. M., Kennett Square, Pa.

Discussion.—What are the Advantages and Disadvantages of the Law Restricting Changes in School Books? Opened by W. A. Lindsey, County Superintendent of Cumberland co., Pa.

EVENING SESSION.

Essay.—Foot-Prints. Miss Laura M. Parker, Pittsburgh, Pa.

Address.—American Education Progressive. By Gen. John Eaton, Commissioner of Education, Washington, D. C.

Statements.—The Present Condition of Educational Interests in the State. By Hon. J. P. Wickersham and others.

THURSDAY, AUGUST 10.

MORNING SESSION—9 O'CLOCK.

Opening Exercises.

Discussion.—Should Pupils be Compelled by Law to Attend School? Opened by George J. Luckey, City Superintendent, Pittsburgh, Pa.

Report.—Science in Education. By George Eastburn, A. M., Philadelphia, Pa.

Special Resolutions and Reports.

Deferred Discussions.

AFTERNOON SESSION—2 O'CLOCK.

Deferred and Miscellaneous Business.

Election of Officers.

Report of Executive Committee.

Reports of other Committees.

Installation of Officers.

The exercises will be interspersed with vocal music, by a quartette club of excellent vocalists, especially secured for the occasion.

Local committees have been appointed to meet persons on their arrival at the railroad depot at Williamsport and to direct and conduct them to such places as they may designate.

As will be seen by the above programme, no exercises are provided for a session on Thursday evening. This omission will be necessary to give those members of the Association wishing to go to Niagara Falls ample time to prepare for the excursion. The excursionists will leave Williamsport at such an hour as may be determined upon, but in season to arrive at the Falls at an early hour on the following morning. It is desired by the officers of the railroads to Niagara that all the members of the Association wishing to go shall, as soon as possible after their arrival at Williamsport, make known such fact to some person to be appointed to receive their applications, otherwise the accommodations provided by them may be inadequate. The excursion from Williamsport and return will not cost each person more than twelve dollars. The train will return to Williamsport in ample time to make the usual connections on Saturday morning.

The hotel and boarding house accommodations of the city are sufficient to entertain at least a thousand persons, at prices ranging from one dollar and fifty cents to two dollars and eighty-five cents per day. None will be entertained free. Any wishing to make special arrangements will address Rev. A. R. Horne, Williamsport, Pa., chairman of the local committee of arrangements.

All railroad arrangements are attended to by Chas. H. Harding, Ticket agent, Nos. 29 and 31 South Front St., Philadelphia, Pa. A full statement in regard to these arrangements may be found in the July issue of the JOURNAL.

Will editors and others endeavor to procure the publication of the above programme in all newspapers throughout the State under their control, and favorable to the cause of education?

Let the teachers and friends of education of our great Commonwealth make this, the Eighteenth anniversary of the Association, one full of interest and profit to all.

A. O. NEWPHER,
Chairman Executive Committee,
Millersville, Pa.

NATIONAL MEETINGS.

THE National educational meetings at St. Louis, to be held, August, 22, 23 and 24, promise to bring together a large body of educators from all parts of the Union. All the hotels of St. Louis have agreed to reduce their rates to members in attendance. The following extract from a letter just received from Hon. J. L. Pickard, President of the National Association, will interest Pennsylvanians desiring to go to St. Louis. "The Pennsylvania Central R. R., sells, to those having an order from W. E. Crosby, Davenport, Iowa, excursion tickets to St. Louis and return, at about two cents per mile." We hope our State will be well represented.

HIGH SCHOOL COMMENCEMENTS.

OUR Public High Schools have now nearly all their annual commencements, the same as our colleges. Judging from several we have witnessed and a larger number of which we have seen accounts in the newspapers, we have come to the conclusion that they are becoming every year a more marked feature of our educational system. This is as it should be. A system of public schools, like everything else, should be judged by its fruits; and its ripest fruits are the products of its High Schools. Let these be modestly shown to the people that they may learn how wisely their money has been expended.

Observers seem to have been surprised at the great crowds everywhere attending these High School Commencements. This, however, is not really a matter for surprise. All classes of citizens have an interest in a public High School, the rich and the poor alike. It is supported by the people's money, is open to the people's children and is therefore near to the hearts of the people. When better understood, it will be nearer to them.

We are glad to notice that the graduates of some of our High Schools have formed Alumni Associations. This will have a good effect, both upon the members of such associations and upon the schools with which they may be connected.

And now come receptions for the graduating classes. The first of these of which we have heard, was that given by Wm. P. Brinton, Esq., President of the School Board of Lancaster, on Saturday evening, July 1st, to the graduating class of the High Schools of that city. The example set by this public-spirited gentleman will probably be followed elsewhere, and such receptions will become as much a feature of High School Commencements as they are now of College commencements.

This whole subject of Public High Schools has to us a deep interest. Without High Schools, we look upon our system of education as a body without a head, utterly incapable of normal growth. We would not only establish them in towns, but plant one or more in every school district of the Commonwealth, on the great principle that we cannot afford to allow the waste of any of the talent that God has caused to be born among us.

GRADED SCHOOLS IN THE COUNTRY.

AN acknowledged educational want of the times is provision under our common-school system for higher education. This provision is easily made in cities, towns, and thickly populated neighborhoods by grading the schools; but one of the most difficult questions that confronts the friends of free education is how to provide the facilities for imparting instruction in the higher branches in country districts. The same difficulty is met with in other States; and as a sign of the times, but without desiring to express any opinion as to its propriety, we give below the text of an Act recently passed by the Legislature of Massachusetts:

AN ACT RELATING TO THE CONVEYING OF CHILDREN TO AND FROM PUBLIC SCHOOLS.

Be it enacted, &c., as follows:

SEC. 1. Any town in this commonwealth may raise by taxation or otherwise, and appropriate money to be expended by the school committee in their discretion, in providing for the conveyance of pupils to and from the public schools.

SEC. 2. This act shall take effect upon its passage.

The effect of the law in enabling the proper authorities to reduce the number of schools in a district and to make them more efficient by grading them, will be seen by the following extract taken from the report of the chairman of a school committee of a district in Worcester county.

This officer says: "We have been consolidating and grading since spring. Instead of eleven schools of the old six months' grade, we have now five primary and two grammar, and shall be able to keep at least eight months this year, with no addition to the appropriation, though we pay better wages and transport the children in two districts" (sub-districts with us) "at an expense of ten dollars per week."

That many years will not elapse before we have begun in a systematic way to establish graded schools in *our* country districts, seems to us very evident, and in this view this Massachusetts experiment has much more than a mere passing value. We shall watch it and report.

CHESTER COUNTY.

Superintendent Maris, of Chester county has held twelve Local Institutes since November last, each continuing in session one week. The last of the series was held at Coatesville and closed on Friday, the 16th of June. Probably, this series of Institutes were the most successful meetings of the kind ever held in any county in Pennsylvania. They are said to have been attended by seven hundred teachers, two hundred directors and ten thousand citizens. They have been instructed by some of the most distinguished educators and lecturers in the country. Among the instructors at the Coatesville Institute was Gen. John Eaton, United States Commissioner of Education. The following is the report of his address on "The Teacher's Preparation," as it appears in the Philadelphia *Press:*

The importance of this preparation to all the consequences of instruction and training no language can portray. The poet, it is said, "must be born, not made," but the teacher must be *both born and made.* Nature and art combining their best efforts, cannot do too much for him. What nature must do for the teacher was taken for granted, and the attention of those present was turned to that part of the teacher's preparation which must be acquired, and for which we are responsible. Every individual in the community had an interest in this preparation. Educate the teachers and you educate the generation and the nation. All improvements in school organization, school hours, and apparatus, and text-books, are vain without good teachers.

This preparation of the teachers cannot be attained at once, and cease forever after, any more than the growth of the healthful and vigorous tree can be accomplished in a single season. It must be constant, and precede every act of teaching, or like the tree he will lose his vitality, and become rigid and powerless for good.

In the lack of preparation, vices and injurious and offensive methods creep into the practices of teachers—such as a wrong use of motives, or too much whipping. Such teaching should not be suffered. Channing was quoted to the effect that to teach was the highest function on earth.

As it was said of the sculptor of old, that either he had ascended up into heaven and communed with Deity, or Deity had descended to earth and communed with him, so it need be with teachers, that they may touch the souls of their pupils with a divine, a more than Promethean fire.

The speaker then noticed somewhat analytically certain essential and central elements of the teacher's preparation, such as—

I. Self-study.

II. Self-mastery.

"Unless above himself he can erect
Himself, how mean a thing is man!"

The teacher, of all persons, should be self-poised, self-possessed. Washington's moral heroism was due to his self-subjection to what was right.

III. Sympathetic appreciation of human life in every condition. This includes a knowledge of human nature, and a power to put a current value upon it. It is the teacher's philosopher's stone. Here we find the secret of the success of Pestalozzi and Frœbel. It is vain to seek in children more than the child, to require children to sit like their grandsires cut in alabaster.

IV. A practical thoroughness, inspired by an enthusiastic love of truth.

Scholarship is good; teachers must have it. They should be familiar with their text-books, but superior to them, availing themselves of all professional aids.

But teachers must be more than scholars; more than experts in the theory of teaching; they must be able to make thorough scholars of all dispositions and capacities, and so teach that their pupils can be thorough and successful in practice, as well as in scholarship. This will exclude foolish oddities and conceits.

V. A cheerful temper, grounded in a conscientious devotion to duty. A teacher possessed of this element of preparation will not be like the fabled fawn, "One day all lilies without and roses within, and the next day all sour within and venom and thorns without."

Thus prepared, the teacher will preserve the sunshine in his school room in spite of storms and clouds.

Examples were given of the wear upon the sensibilities and health of the teachers, and of the need of relief and relaxation, enjoying communion with nature and with the great and good in literature.

A FREE COLLEGE.

THE authorities of Franklin and Marshall College proposed some time since to give free tuition to all young men of Lancaster city and township, prepared to enter, on the condition of receiving a subscription of $75,000. A meeting to consider this proposition was held in the Court House, on Friday evening, May 19th. Being invited to attend that meeting and unable to do so, the Senior Editor of this JOURNAL published the following communication in the Lancaster *Express.* It is republished here in the hope that it may be useful elsewhere:

A FREE COLLEGE—YES? OR NO?

I was unable to attend the meeting of citizens held at the Court House on last Friday evening for the purpose of taking measures to make Franklin and Marshall College free to all young men of Lancaster city and county, and I now take the liberty of making known through your columns some of the reasons why I favor the movement.

By making Franklin and Marshall College free as proposed, an opportunity will be given to every Lancaster county boy to obtain the advantages of a higher education. God is no respecter of persons in His distribution of the gift of talent, and intellect of a high order is born quite as often in the cabins of the poor as in the castles of the rich. That is the noblest kind of political economy which teaches how to search out, develop and direct all the mental forces of States and communities. It is vitally

perilous to suffer these to rust out in inactivity or to grow rank in riot. To prevent the waste of talent, to give the poor a chance, let Franklin and Marshall College be made free.

Our common-school system is a body without a head. Lancaster boys and girls can obtain free instruction in primary, grammar and high schools, but at that point, under our present system, all progress must cease. At the end of his high-school course, the ambitious poor boy meets a closed door which can be unlocked only with a golden key, which he has no means of obtaining. He has been told of the rich treasures within, but he finds they are not for him. Less gifted classmates enter and come and go at will, while he, though conscious of his claims, sinks back and is soon lost in the purposeless throng of struggling humanity. O that the power were mine to open that door to every poor boy and poor girl, not only in Lancaster, but in the whole nation!

The most pressing educational demand of the times is that for higher education. "A little education is a dangerous thing." We must give the youth of the country facilities for drinking deeper at the fountain of knowledge. This is what the wisest friends of common schools always contemplated; this, too, the State requires by a plain provision of its Constitution; and to its neglect discerning men readily trace much of the conceit, pretension and want of self-respect, which too often characterize our American society.

With Franklin and Marshall College open to all, without money and without price, the number of its students would be greatly increased. Families would flock to Lancaster city to enjoy its educational facilities. Our common schools would annually send up their best and brightest scholars to fill its halls. It would become organically connected with our system of education, and, consequently, nearer to our homes and hearts. We have not now much of interest to point out to strangers visiting our quiet old city, not much in the way of fine scenery, not much in the way of grand public buildings or beautiful private residences, but we would then have to be proud of, what there is not in all the State beside, a system of schools, common, high and collegiate, every one of whose doors needs only to be knocked at to be opened.

A free College? *Yes.* The $15,000 required should be raised in an hour. J. P. Wickersham.

ATTENDANCE AT SCHOOL.

There is some valuable truth in the following communication signed by the teachers of the graded school at Coudersport, Potter county. We clip it from the *Potter County Journal:*

How to secure regularity of attendence in our public schools is a question that is attracting the earnest attention of our educational men, and its necessity to a successful school is becoming every day more apparent. We think the solution of this question is a hearty co-operation on the part of the people and boards of directors with the teachers. As a proof of this we cite the success of our graded school in this respect during the past year. The number of pupils admitted during the year were 193, and the average per cent. of attendance per month during the entire year of eight months is upwards of 94. With a few unimportant exceptions, the people have helped us to secure these results. But more especially are we indebted to the intelligent and appreciative board of directors, which have always supported our measures of discipline by adopting and assisting us to enforce such regulations as were deemed necessary. The harmony which has prevailed, and the promptness with which we were always paid for our services, will ever be gratefully remembered.

B. B. Slade,
Nettie Gridley,
Sarah G. Weimer.

THE VALUE OF EDUCATION.

M. Hall Stanton, Esq., President of the Board of Control of the city of Philadelphia, in his recent report speaks as follows concerning the value of education to communities. His wise words should be pondered everywhere:

The education of the young is a subject, the importance of which has been so long tacitly acquiesced in, and so often ably argued, that a complete statement of its claims upon the consideration of the citizen is neither expected nor desired in this place. It is, nevertheless, true that too many, who should understand and estimate it at its real value are so absorbed in the pursuits of wealth and the development of material prosperity, that they not only fail to appreciate the Public School System, but regard the taxes levied for its support as onerous and excessive.

Strangely enough, they forget that education is the essential preliminary to the material progress to which they devote themselves, and in which they so rejoice. The industrial activity of the day, with the material wealth in which it results, is of comparatively recent growth. It is due to the quickened energies of the inventive intellect, which are due in their turn, to the increased and increasing intelligence of labor.

Need it be added that the intelligence of labor is due entirely to the diffusion of education among the masses, which is peculiarly and pre-eminently the boast of modern times?

The wealth, therefore, that groans under the burden of the school tax and would seek its diminution, or, at least, evade its legitimate increase, owes its existence to the education which it contemns.

Costly though it be, we thus see that education secures a direct pecuniary return that infinitely overbalances the original outlay.

It is important that this argument, although it is doubtless the lower and utilitarian view of the question, should be urged persistently and forcibly upon the tax-payer. Important as economy doubtless is in the administration of public affairs, there is no department where there is more danger of it being misapplied than in this. There are many things in which cheapness may constitute a recommendation; but teaching, which is, in truth, incapable of valuation by the rude and imperfect standards of the market, may be obtained at a cost so reduced as to deprive it of all its worth, and render it a source of injury rather than of benefit. Let it be hoped then, that henceforward the low cost of our school system shall no longer be its vaunt, but let our aim rather be to *increase* its efficiency, its thoroughness, its comprehensiveness, in the confidence that, however much it may cost, the community will not only be better, more intelligent, and happier, but in the end actually *richer*, through its agency.

Another view, in close connection with the foregoing, is that the continued prosperity of a community depends not only on the multiplication of its resources, but also upon the intelligence and skill with which those resources are managed and distributed. Of a surety education, and education universally and freely diffused, is essential

to secure this intelligence and skill. Especially is this so in a country which, like our own, assumes to be self-governing.

Educate the masses, and you reduce the number of the poor by teaching labor how to make itself rich. Educate the masses, and you teach the poor that capital is their best friend, without which their estate would be tenfold more wretched

Government, too, is a science, which only intelligence can master. Good government is the only security for property; and what hope of good government can there be with us without the widest diffusion of education among those masses, who at last shape and control the administration of its every department?

Life Among the Schools.

Laying the Corner Stone—Cumberland Valley State Normal School.—The ceremony of laying the corner-stone of the new Normal School to be located at Shippensburg, Cumberland county, took place on Wednesday, the 31st of May, in the presence of an immense concourse of people.

The procession was formed at one o'clock, P. M., under the management of Col. J. C. Altick, Chief Marshal, and Capt. J. V. Gish and Maj. M. G. Hale, Assistant Marshals. It consisted of the different orders and organizations as follows:

Cumberland Guards.
Knights of Pythias, (five lodges.)
Red Men.
Good Templars.
Odd Fellows, (several lodges.)
Free Masons (five or six lodges.)
Board of Trustees.
Grand Lodge of Penn'a, A. Y. M.

Some eight or ten bands of music were distributed throughout the procession.

The corner stone was laid under the direction of the officers of Grand Lodge of Pennsylvania, A. Y. M., the Right Worshipful Grand Master, R. A. Lamberton, presiding.

Addresses were delivered by G. M. Lamberton, State Superintendent Wickersham, Gen. W. M'Candless and others. In concluding a report of the proceedings, the *Valley Sentinel*, of Shippensburg, says: "We have but to add that Wednesday was a day long to be remembered by our people—a day never to be forgotten." And our own prayer is that the work so auspiciously begun shall be quickly and wisely carried forward to completion.

The Schools of Norristown.—The following facts will show that Norristown occupies a creditable position in school affairs:

There are at present five separate school buildings in Norristown, all of which are well adapted to their respective grades. Twenty-nine teachers are employed. The schools are considered to be well graded, from the alphabet to the higher branches; in fact, in all the branches a knowledge of which constitutes a good education. Pupils are taken, step by step, from one grade to that of another, so that a child passing through these schools cannot fail to be well drilled. In the high school are taught chemistry, algebra, geometry, surveying, natural philosophy and geology, as well as the common branches. Languages, taught by a professional linguist, are German, French, Latin and Greek. Music by a professional musician; also, drawing. There has been quite an interest manifested by the Board of Directors during the past few years, and they have greatly aided the teachers in a way which is telling in the progress made in the schools. That there is still room for improvement is well known. The male pupils of the high school, by giving public entertainments, and aided by the board, purchased a fine piano for the use of the school; the female pupils, in the same manner, a very fine cabinet organ. This was done one year ago.

Philadelphia Institute.—A meeting of the Teacher's Institute of Philadelphia was held on Friday, May 19th, commencing at 4½ P. M.

While members were collecting, Professor Houston made some remarks on the subject of sound, and made some experiments on the conduction of sound by rods, and developing the conducted sound by vibrating surfaces, giving some audible illustrations of Wheatstone's experiments called the telephonic concert.

Owing to the late hour of the afternoon for commencing the meeting, the attendance was small. The subject of most importance that was brought before the institute was the new civil code—the "Revised Statutes"—as far as relates to schools. Edward Shippen, Esq., lately president of the Board of School Controllers, addressed the institute on the subject, and showed how many changes, and what radical ones, would be made in Philadelphia by the passage of a law which did not as heretofore, except the First school district.

W. Henry Parker stated that the different sections alluded to were already in force throughout the State, except in Philadelphia, or were but slightly modified; and that he had formerly said, when the city councils neglected the school appropriations, or would not grant what was needed, that it would be well to extend the State laws on school matters over

the city, by an act of two or three lines; and that the change would be so great as to set every one concerned to having a fair and just law passed, so that the schools should no longer suffer. On his motion, a committee of three was appointed to report upon the proposed school law at a future meeting of the institute. Committee: W. Henry Parker, E. Shippen, E. A. Singer.

A WRITER in the *Johnstown Democrat*, after giving the percentage of attendance at the schools of Millville during the past term and naming a number of pupils who received the highest "credits," adds the following:

"The progress of 'the little folks' under the care of Miss Maggie L. Davis, astonishes not only their parents but all who hear them recite and witness the skill and accuracy they have acquired in writing. The progress of Miss Quinn's pupils is also marked and highly creditable, which may be truly said of all the schools in the borough. The teachers of Millville are working hard and their work, through a hearty co-operation of parents and an intelligent energetic board of directors, is telling to good effect. There is scarcely any district in the county that can record a better attendance or more genuine progress than Millville for the past five months."

BUCKS COUNTY held a convention of school directors on Friday, June 9th. The convention assembled in response to a call issued by Hugh B. Eastburn, Esq., County Superintendent. The *Intelligencer* says of it:

"The object was to consider certain matters relating to our common schools set forth in the call, with a view to secure more general co operation in the promotion of measures deemed important to advance the cause of popular education in the county. Quite a number of the directors throughout the county responded to the call of the County Superintendent. A large portion of the districts in the middle and lower sections of the county were represented. The attendance was not so full from the upper townships, although several members of the school boards in that part of the county were present. In point of numbers the convention was all that was expected, and those assembled embraced in a large degree the more intelligent and progressive school officers of the county. It was altogether a very successful and encouraging meeting. The number present was larger than was expected. The proceedings were harmonious and conducted in a very business-like manner. The speakers were brief and to the point, and the advantages to the cause of education in the county cannot be otherwise than beneficial."

THE FIRST school session of the West Chester State Normal School will commence in September next, with a full corps of instructors.

A NEW school house has just been completed in Port Carbon, Schuylkill county, that is highly spoken of. It is surmounted with a tower, containing a bell weighing 1,018 pounds and a clock costing $700.

THE YORK High School, under the efficient management of Prof. Shelley, is a decided success. Its pupils the past term, numbered about 60, and we can ourself bear testimony that they passed a creditable examination.

EASTON BOROUGH, on Friday, the 30th of June, laid the corner-stone of a new school house which is expected to cost $60,000 or $70,000. The public school children, some two thousand in number, marched through the streets to the site of the place where the ceremonies took place. The Board of Directors, the President and Professors of Lafayette College, the several clergymen of the town and leading citizens occupied seats on the platform, and the population of the town turned out *en masse*. Mr. Stewart, President of the Board of Directors, presided, and made some introductory remarks; Dr. Cattell, President of the College, opened the ceremonies with prayer, the State Superintendent laid the corner-stone and delivered an address, and Superintendent Cottingham read the list of articles deposited in the corner-stone. The whole people of Easton seemed much interested in the ceremonies, and they are generally wide awake in school affairs.

The High School commencement took place in the evening of the same day. It was largely attended. The graduating class numbered eleven, four young gentlemen and seven young ladies.

PERSONAL.

PROF. COFFIN, of Lafayette College, received from the students at the recent commencement, a purse of $1000. The Professor has taught in the college for twenty-five years, and has richly earned this handsome present.

HON. W. D. HENKLE, State Commissioner of Education in Ohio, declines being a candidate for re-election on account of the inadequacy of the salary. The salary paid is $2,000 per annum. Several of the City Superintendents of Schools in Ohio receive $4,000 per annum.

PROF. T. R. VICKROY has resigned the presidency of Lebanon Valley College, and his place has been supplied by the election of Prof. L. H. Hammond, A. M.

J. P. WICKERSHAM was elected a member of the Board of Trustees of Franklin and Marshall College at their recent meeting.

D. H. HASTINGS, principal of the public schools of Bellefonte, is highly complimented in the papers of that town as an efficient teacher

PROF. JOHN S. ERMENTROUT has resigned the principalship of the Kutztown State Normal School. Prof. J. S. Stahr, of Franklin and Marshall College, elected in his place, has declined to accept the position.

MR. J. WHARTON BRADLEY, who has been Principal of the male sub-grammar school, of Pottsville, for the last four years, and has filled the position in a very acceptable manner, has resigned for the purpose of devoting his time to the ministry of the Gospel. Upon accepting his resignation, the board of directors passed resolutions very complimentary to Mr. Bradley, both as a teacher and as a man. Mr. Bradley's place has been filled by the election of Mr. John W. Armes, for many years a teacher in Pottstown.

A FEW friends of education in Connecticut have presented Secretary B. G. Northrop a purse of $1,200, and the State Board of Education have bid him go and inspect the schools of Europe, without loss of salary. He sails with his daughter on the 15th of July. We wish some of our rich friends, who have more money than they can spend, would invest a little in a European tour, and let us enjoy it.—*National Teacher.*

We heartily second brother White's "wish," but hope this kind of liberality will not be confined to Connecticut and Ohio.

S. H. WHITE, for several years editor of the *Illinois Teacher*, has closed his connection with that periodical. His reasons are: "A proper regard for health and a satisfactory discharge of other duties." The *Illinois Teacher*, under the editorial management of Mr. White, was one of the very best of our educational journals. We sincerely regret the step he has considered it necessary to take. His successor is E. W. Coy, Esq., principal of Peoria High-school.

OFFICIAL DEPARTMENT.

DEPARTMENT OF COMMON SCHOOLS,
HARRISBURG, August, 1871.

PERMANENT CERTIFICATES GRANTED.

No.	NAMES.	RESIDENCE.
764	Rachael B. Fowler..	Pittsburgh, Alleghany county.
765	Geo. W. Rumbarger	Fillmore, Centre "
766	Noah M. Frank.....	Rebersburg, Centre "
767	Mary A. Smith.....	Haysville, Centre "
768	Emma C. Walton...	Ercildoun, Chester "
769	Margaretta P. Morris	Lionville, " "
770	Josephine Bell.....	Phœnixville, " "
771	J. B Nuss.....	Mainville, Columbia "
772	Mollie E. McCoy...	Milesburg, Centre "
773	Helen R. Marshall..	West Chester, Chester "
774	D. E. Robison.....	Port Royal, Juniata "
775	George E. Hench...	" " " "
776	George F. Baker.....	Steelesville, Chester "
777	John J. Snodgrass...	Alleghany City, Alleghany "
778	Mary D. Bunting...	Mauch Chunk, Carbon "
779	Martin J. Loverin...	Hyde Park, Luzerne "
780	Marian Mears.....	" " " "
781	Emma Bowen.....	" " " "
782	Hattie F. Stevens...	" " " "
783	Gilbert L. Everhart.	New Brighton, Beaver "
784	William Miller.....	Harshaville, " "

BLANKS NOT FORWARDED.

We have received a large number of letters from the directors of certain counties, asking for blank forms of reports, &c. They say the county superintendents, whose duty it is, neglected to furnish them even when applied for by mail. This is a serious complaint, and, if repeated and discovered to be well founded, the names of the counties will be given and the negligent officers will be properly reminded of their duty.

SCHOOL STATISTICS OF POTTSVILLE.

The following table, showing the school statistics of Pottsville, was very carefully prepared from the census papers by Superintendent Patterson, of that borough.

The most striking facts exhibited by the table are—

1. That of 4,427 children in the borough between the ages of 6 and 21, 2,214, or exactly one more than one-half, are out of school.

2. That of 2,080 children between the ages of 7 and 13, 401, or nearly one-fifth, are out of school.

3. That 336 males and 530 females above the age of 12 years, out of a population of 12,381, cannot read and write.

These facts point out, in the most forcible manner, a new field for educational effort. They show that multitudes of children in this flourishing town, in the midst of school houses and churches, are growing up in ignorance,

and that many persons are attempting to discharge the duties of citizens who know little about them. Cannot the intelligent and energetic board of directors find some remedy for these evils? Is there no way of bringing these neglected children voluntarily into the schools? No way of imparting some instruction to these ignorant adults? Has any strong, patient, well directed effort been made in this direction? Let Pottsville lead the reform in this good work, and other cities, towns and townships, suffering in the same way, must soon follow. Our children *must* be brought to school.

TABLE.

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tion, he shall issue annually, during the three years next succeeding the approval of this act, a warrant for five thousand dollars upon the State Treasurer for money not otherwise appropriated in favor of the trustees of the said school: *Provided*, That the President of the Board of Trustees, at the time of applying for the issue of the first warrant, shall certify to the Superintendent of Common Schools, under oath or affirmation, that the said school has a *bona fide* subscription fund for the erection of its buildings, of at least thirty thousand dollars, and that there is expended in the erection of their buildings at least ten thousand dollars; and, at the application for the second warrant, that there is expended an additional sum of at least fifteen thousand dollars since the preceding warrant was issued, and at the application for the third warrant, that there is expended an additional like sum: *And provided further*, That it shall be lawful for the Superintendent of Common Schools to issue the said warrants whenever the amounts herein specified shall have been expended in the erection of the said buildings, although the time hereinbefore specified shall not have elapsed.

SECTION 2. That the said Cumberland Valley State Normal School shall have none of the privileges of the act establishing normal schools, approved the twentieth day of May, one thousand eight hundred and fifty-seven, until it is duly recognized as a State Normal School, and that the State Superintendent shall be invested with such authority over said school as he now exercises over the recognized normal schools of the State.

SECTION 3. That the said Cumberland Valley State Normal School shall not be diverted from its design of training teachers for the common schools for the Commonwealth, without refunding to the State such moneys as it may receive under this act, and that prior to its acceptance as a State Normal School no conveyance of the property of said school to any party or parties shall be valid, unless said conveyance shall receive the signature of the Superintendent of Common Schools.

AN ACT

To aid the Indiana Normal School of Pennsylvania.

SECTION 1. *Be it enacted, &c.*, That whenever the Trustees of the Indiana Normal School of Pennsylvania, located at Indiana, Pennsylvania, incorporated by an act approved March —, A. D. 1871, shall obtain from the Superintendent of Common Schools an approval of the location of said school with regard to its becoming a State Normal School for the ninth normal school district, and also of the plans of the buildings, such Superintendent shall issue, annually, during the three years next succeeding the approval of this act, a warrant for five thousand dollars upon the State treasurer for money not otherwise appropriated in favor of the trustees of said school. Before, however, the board of trustees apply for the issue of the first warrant they shall certify to the Superintendent of Common Schools, under oath or affirmation, that the said school has a *bona fide* subscription fund for the erection of its buildings of at least twenty-five thousand dollars, and that there is expended in the erection of their buildings at least ten thousand dollars, and at the application for the second warrant, that there is expended an additional sum of fifteen thousand dollars since the preceding warrant was issued, and at the application for the third warrant that there is expended an additional sum of five thousand dollars, and at the application for the fourth warrant that there is expended an additional sum of five thousand dollars.

SEC. 2. That the said normal school shall have none of the privileges of the act establishing normal schools, approved May 20, A. D. 1857, until it is duly recognized as a State Normal School, and that the State Superintendent shall be invested with such authority over said school as he now exercises over the recognized normal schools of the State.

SEC. 3. That the said normal school shall not be diverted from its design of training teachers for the common schools for the Commonwealth, without refunding to the State such moneys as it may receive under this act.

MODE OF FIXING TEACHERS' SALARIES.

LETTER FROM SUPERINTENDENT ALLEN.

We take pleasure in giving place to the following letter, though without clearly understanding the plan proposed:

PROMPTON, PA., June 10, 1871.

MR. EDITOR: Having been requested by our directors to furnish a plan for regulating the teachers' salaries according to the grade of their certificates, I beg permission to submit through the JOURNAL the following plan:

Let the examination in every branch be divided into five sections of five questions each. Let the questions of each section be associated with the following numbers: 1. Question with 8; 2, with 12; 3, with 15; 4, with 18; and 5, with 20. Let the applicant select and answer only one question from each section, and when his work is found to be correct receive the number associated with his question. The sum of the marks thus received will express what per cent. of all the questions in each branch was answered, since 100 will be the highest number of marks that can be obtained in any one branch. Get the percentage of the certificate by dividing the sum of the marks obtained in each branch by the number of branches.

Rule.—Grade the salaries by decreasing the maximum salary by the product obtained, by multiplying the difference between the maximum percentage and the percentage of the certificate by 5 cts. If our cotemporaries have a more practical plan for getting the percentage, or fixing the salaries, we shall be pleased to hear from them.

If the State Department favor regulating the salaries by the percentage, would it not be well to print the word "percent." on the certificates? D. G. ALLEN.

ITEMS FROM LATE REPORTS.

ARMSTRONG.—Eighty-four students are attending the county normal institute.

BEAVER.—The directors of Beaver Falls borough are erecting a union school building at a cost of thirty thousand ($30,000) dollars. The following districts are also erecting substantial houses: Raccoon, two; Moon, two; Frankfort Springs, one; Island Run (Ind.), one; New Galilee, one. All of these will be ready for occupancy during the coming fall.

BUCKS.—All the schools of Buckingham have been supplied, by the school board, with Webster's Unabridged Dictionary.

CAMERON.—At least one thousand persons attended the late educational meetings held in the county.

CENTRE.—There are no public schools in session now, except those of Bellefonte, which is the only district in the county that has a ten months' term. About seventy-five subscription schools are open in various parts of the

county. Some of these are taught by well qualified teachers, while some, doubtless, are almost worthless. Directors are beginning to exercise more caution in granting the use of school houses for this purpose, and now there are but few "paying" localities without good subscription schools during the summer. Probably if those interested would consider the matter, they would find that such schools cost as much as the public school would for a like term.

CHESTER.—The trustees of the Normal School were elected the first of the month. They have power to organize the school by appointing a principal and faculty. Judging from the character of the men on the board of trustees, no effort will be spared to make the school worthy of the name and the place. The experiment is now being made of combining several townships into one district, and holding an examination and an institute in a central place. Thus far the success is very gratifying. These institutes are very well attended, and have all the life of ordinary meetings of the kind. The directors of Charlestown are erecting a fine two-story house for a graded school.

CLARION.—The directors of East Brady borough are erecting a new school building. Beaver district has increased the school term to six months. One-half the teachers who taught during the past winter are now attending school.

CLEARFIELD.—Fifty-one teachers are attending the normal institute at Curwensville.

CRAWFORD.—The fine new brick school building in Titusville is completed and now in use. It is an ornament to the city and a credit to the directors and their building committee.

DELAWARE.—During the past year the Superintendent visited all the schools in the county twice, except two.

LAWRENCE.—There are fewer summer schools this year than usual. Directors and people are finding out that a summer term of three months, divided by a vacation for harvest, is not profitable. Last year about one half of the districts had summer terms; this year we have three new townships added to the number having but one lengthened term. We want good teachers, and the same teacher during the entire school year. Change of teachers twice a year has a bad effect in the school Better have a shorter term taught by the same teacher, than to have two terms taught by different teachers, even if the term be a month or two longer. In Wilmington district two new school houses have been built, one in the village of New Wilmington for a graded school with four good school-rooms. This district has now a full supply of good, substantial school-houses.

LYCOMING.—The first monthly exercises of the Lycoming County Normal School, were held in the M. E. Church at Montoursville on Friday evening, May 19th. Six orations were delivered, five essays and two papers read by the advanced division. The second division declaimed and read essays in public in the afternoon of the same day.

MONTOUR.—The public schools of Danville closed with a pic-nic which was attended by nearly all the pupils, all the teachers and directors, and a large number of the patrons. It proved to be a pleasant affair.

NORTHAMPTON.—Excepting the six districts where the school term is ten months, the schools have all closed for the present term. A number of good houses will be erected this summer. The fine edifice in Bethlehem will be ready by the first of September. South Bethlehem has increased the school term to ten months. The length of term will be increased in quite a number of districts.

SCRANTON.—A new school house containing three rooms has been completed. Another school house will be built during the summer.

SOMERSET.—The select schools at Somerset and Berlin are doing a good work.

WARREN.—The union school of Sugar Grove has been furnished lately with an organ, bought with the proceeds of an exhibition given by the school. The directors of Youngsville borough are building a very fine union school house, at a cost of about $10,000.

WASHINGTON.—Venice school term closed with an examination, which was largely attended by the patrons of the school. Addresses were made by Prof. Dickson and the County Superintendent Chartiers will build a good substantial school house this summer, and supply it with the most approved furniture. Linnæan Academy, at Canonsburg, has 115 students in attendance. Most of these will teach in this and adjoining counties.

SCIENTIFIC INTELLIGENCE, ETC.

LONGEVITY.—The duration of life of larva in closely allied forms, varies from four years and more to a week. Fleas are said to live as long as nine months. Fish have great tenacity of life. The carp is stated to have reached one hundred and fifty years. The toad lives thirty-six years, the frog from twelve to sixteen years, and various tortoises must have seen many years if we may judge from the size to which they attain. Parrots and geese reach an age between one hundred and one hundred and twenty years, and falcons and ravens outlive one hundred and fifty years, but the little wrens live only two or three years. Of mammals, the whale and the elephant have the longest term of existence, living as they do over one hundred, perhaps to two hundred years. The horse lives twenty-five, but sometimes reaches forty years; the sheep and the goat twelve years; the lion from twenty to fifty years. Man, there is no reason to doubt, has lived long past the Psalmist's limit of threescore and ten, there being well authenticated instances of his living over one hundred years; but it is only among highly civilized nations that satisfactory data can be obtained regarding his longevity. A minute investigation of the conditions that conduce to length of life, goes to support the theory that the longevity of animals is influenced by their amount of procreative power, and their ability to sustain wear and tear

COLOR.—As to whether color serves any purpose of protection, or any other purpose in the lowest order of animals, Mr. Darwin speaks very doubtfully; but thinks we are liable to err as to characters of all kinds in their relation to protection. Mr. Wallace's statement that the

glass-like transparency of medusæ, and other inhabitants of the sea, serves to conceal them from their enemies among the seafaring birds seems to stand as an exception. The most probable view in regard to the splendid colors of many of the lowest plants is that they are due to the minute structure of their tissues, rather than to any benefit in a protective way which has tended to promote their occurrence. The fine color of arterial blood, even though it flush so beautifully in a maiden's cheek, he does not regard as acquired for this purpose nor for any advantage in itself. The bile of some animals has a rich color, giving them as an exceeding beauty, as seen through the translucent integuments; this is to be ranked, however, in the same category with the gorgeous coloring in American autumn forests, and the tints of chemical compounds; all of which may be due to processes independent of any useful end. Among mollusks, although certain instances may possibly be cited of protection by color, the beautiful coloring of shells found in deep sea, as well as in shallows or on land, seem to have as a rule no part to play either for defense or for drawing together the sexes.

Zinc Poison.—The increasing use of zinc for common purposes is developing its poisonous character, bringing to the notice of physicians dangers not heretofore suspected. When used in paint, this metal is so decisive in its effects that many painters do not dare to touch it. In household economy zinc plays a treacherous part through the pipes which supply water. Lead has come to be so much dreaded that prudent men have been substituting galvanized iron. This is iron coated with zinc; and when it is in contact with water affords the most favorable conditions, under the laws of galvanism, for the corrosion of the zinc. The salts of zinc thus formed and dissolved in the water become the unsuspected cause of sickness in many families The *Journal of Chemistry* contains a report from Dr. Smith, of Melrose, near Boston, of some distressing cases of sickness and death which came under his notice in a house where the water was drawn through a pipe 70 feet long. The results are: disorder in the digestive organs, including a colic similar to that produced by lead, ulcerations of the throat, disturbance of all the secretions, and nervous derangement, even to paralysis. People can hardly be too careful in providing against such dangers, which may extend to a whole household.

Extract of Beef.—The largest kitchen in the world is that of the Liebig Beef Extract Company in Uruguay. It covers twenty thousand square feet of ground, and is divided into a number of compartments, which are all constructed with a view to their peculiar uses. You enter first a large, dark, cool hall, with paved floor, where the meat is weighed and conveyed through openings in the wall to the cutting machines. These are four in number, and can cut up two hundred young oxen in an hour. From the cutting machines the meat goes into twelve receivers, where it is pressed by steam power of seventy-five pounds to the square inch. These twelve receivers are capable of containing twelve thousand pounds of meat each From these the meat, or rather the liquid now, runs through pipes into receptacles constructed for the purpose of separating the fatty substance from the extract and to clear it. Lastly, it is raised by steam air-pumps into large coolers, filtered, and subsequently packed for transportation. The butcher of the company is a scientific executioner, who can with ease and grace kill eighty oxen in an hour by separating the vertebræ.

Minute Machinery.—A correspondent writing from London says: "The most extraordinary machine in the exhibition is, beyond question, the one for microscope writing. This enables a person to write in the usual way, and to duplicate his writing a million times smaller, so small, indeed, that it is invisible to the naked eye, yet with a powerful microscope become so plain that every line and dot can be seen. The inventor claims that with this instrument he can copy the entire Bible twenty-two times in the space of an inch. The Astor Library, I presume, could be transferred to a sheet of note paper. Practically it will be of great service in preventing forgeries. With one of these machines a private mark can be put on bills so minute and perfect that the forger can neither perceive nor imitate it, but the bank clerk or broker, knowing where to look, can at once detect that a bill is genuine. The machine is the invention of a Mr. Peters."

Locusts.—The locust swarms in India approach in vast clouds, darkening the air as if it were night-fall. When they settle the ground for miles appears as if covered with a light brown snow. If they settle on trees, stout branches of the banyan are broken by the weight, as they pile themselves over one another. And yet it is said that, with horns, tomtoms, pipes, and flags, the natives succeed in turning the scourge away from the cultivated fields, and saving crops which would otherwise vanish in an hour.

The Twenty Largest Cities.—The following is a list of the twenty most populous cities in the country, with their population, according to the completed census returns. For the sake of comparison, the population of the same cities in 1860 is also given, together with the rate per cent. of increase in ten years:

No.	Cities.	1870.	1860.	Per Cent.
1	New York	922,531	805,658	14.6
2	Philadelphia	674,022	565,529	19.2
3	Brooklyn	396,300	266,661	48.7
4	St. Louis	310,864	160,773	93.4
5	Chicago	298,983	109,260	173.7
6	Baltimore	267,354	212,418	25.9
7	Boston	250,526	177,840	40.9
8	Cincinnati	216,239	161,041	34.3
9	New Orleans	191,322	168,675	13.5
10	San Francisco	149,482	56,802	163.2
11	Buffalo	117,715	81,129	45.1
12	Washington	109,204	61,122	78.8
13	Newark	105,078	71,940	46.1
14	Louisville	100,753	68,033	48.1
15	Cleveland	92,846	43,417	113.9
16	Pittsburgh	86,235	49,217	75.3
17	Jersey City	81,744	29,226	179.7
18	Detroit	79,580	45,619	74.5
19	Milwaukee	71,499	45,246	58.1
20	Albany	69,422	62,367	11.4

We suggest, as a profitable exercise, that pupils learn (1) the relative rank, and (2) the population of *five*, *ten*, or more, of the principal cities of the United States, as given in the census of 1870.

Drawing in the Public Schools.—The Legislature of Massachusetts last year passed a law requiring all towns in the State of ten thousand inhabitants and upwards to open free drawing schools in the evening. When the classes were opened last November in the city of Boston, no less than a thousand applications for admission were made in less than a week, and many applicants had to be refused, both for want of accommodations and for want of instsuctors. Many of the applicants were mechanics, who were so eager to learn drawing that they were willing, after the fatigues of the day, to spend three evenings in the week in acquiring a knowledge of this important art. To accommodate these students the city of Boston has made extensive preparations, and has appointed a

competent master as Inspector of Drawing Schools to organize the drawing schools, and has sent him to Europe to purchase casts and models for study. This inspector was for twelve years head master of the Government Art School at Leeds, England, and at the same time had three other drawing schools in the neighborhood under his charge. The object in placing the system of drawing schools on so extended a basis, is to establish institutions from which an abundance of good teachers can be obtained, as at present there is a great deficiency in the supply of instructors in this art.

Travellers Abroad.—Every year, between five and six hundred steamers leave New York, carrying abroad Americans who intend to travel through Great Britain, France, Italy and other parts of Europe. The average number of passengers taken by each steamer is estimated at eighty, and, deducting the Europeans returning home, it is calculated that at least forty thousand citizens of the United States every year leave home to visit Europe Estimating the expenses of each individual during his tour at three thousand dollars, the total expenditure of these travellers will amount to one hundred and twenty millions of dollars. This large sum, it will be remembered, is taken out of the country in gold or bills of exchange. On the other hand, the emigrants who arrive in the United States every year, it is estimated, bring with them at least twenty millions of dollars. Deducting the latter sum, it will be seen that at least one hundred millions of dollars are taken out of the country every year, to be expended in European travel.

Tobacco Smoking.—A French physician has investigated the effect of smoking on thirty-eight boys, between the ages of nine and fifteen, who were addicted to the habit. Twenty-seven presented distinct symptoms of nicotine poison. In twenty-two there were serious disorders of the circulation, indigestion, dullness of intellect, and a marked appetite for strong drinks. In three there was heart affection; in eight decided deterioration of blood; in twelve there was frequent epistaxis; ten had disturbed sleep, and four had ulceration of the mucous membrane of the mouth.

A plant in Ceylon has a singular provision for the distribution of its seeds. These are contained in a circular head, which is composed of spine-like divisions that radiate in all directions, making a diameter of eight or nine inches. When the seeds are ripe for distribution, these spherical heads, with their elastic spines, are blown away by the winds, and roll swiftly over the level shore for miles, dropping seeds as they go. If they come to water they float easily, and their spines serve as sails, so that they can cross estuaries. A plant valuable for taking root in the sand and protecting the shores from erosion is thus widely distributed.

Sunstroke.—A German paper contains a letter from a traveler who, on March 23, 1866, was near the Dead Sea with a party of eighteen, one of whom fell from his horse, overcome by the excessive heat of 126.5° F. One of the Bedouin guides bathed his hands, head and face with lemon juice, after which the sufferer was able to ride two hours to the Jordan, where he could rest for several hours, and then completely recovered.

A curious and beautiful effect was produced by one of the ice making machines built lately in Philadelphia. This was a cake of manufactured ice, in the centre of which, completely inclosed by the translucent material, was a boquet of fresh flowers. Every leaf and flower was perfectly visible, while the brilliancy of the colors was enhanced by the refraction through the ice. This specimen of summer entombed in winter was produced by the Care ammonia process, a French invention, under which these machines are operated.

The active principles of plants, according to recent investigations, are more concentrated in the leaves of plants grown in cold climates where the vegetation is less vigorous, than in warm climates. In illustration, the well known facts are cited, that tobacco grown in northern regions is stronger than the same plant raised in mild or tropical regions, and celery, it is stated, is affected in the same way by the influences of temperature and moisture.

In dressing for photographs dark brown, dark green, maroon and plain black goods, without gloss, will make a rich drab color. Silks of the same color will take considerably lighter. Snuff brown, dark leather, dark drab, scarlet, cherry, dark orange, crimson and slate will also take a rich drab color. Violet, blue, purple, pink and magenta will take very light, and should be avoided. The hair should not be very wet or glossy.

It is a curious fact among our hat and cap manufacturers, that different localities use different sizes of hats and caps as standard sizes. Boston and the Eastern States use the smallest sizes, New York and the Middle States use the medium to largest sizes, and Chicago and the Western Srates require the largest sizes. Goods manufactured for one market cannot be sold for the other, only in exceptional cases. The South use a shape peculiar to themselves and of large size.

Captain Hall started a few days since, in his little vessel "Polaris," for the Arctic regions. He means to explore the Open Polar Sea, and will be gone for three years, or longer. *Bon voyage*, brave Captain!

The combined populations of the eight largest cities of the United States—New York, Philadelphia, Brooklyn, St. Louis, Chicago, Baltimore, Boston and Cincinnati—are less than the population of the city of London, as announced by the recent British census.

The ties used on the South American railways have been transported almost entirely from California, as the hard-wood ties cut on the Andes, cannot be used without boring the spike-holes with augers. The ties cost one dollar each, landed at Callao.

Dr. Livingstone on his return from Africa, will receive decorations from seventeen different European and scientific societies. The last news says that he is not at Ijijijiji, but that he has gone up to Yxyxyxy.

The Japanese have but two foreign ministers, one of whom serves for entire Europe, while the other they send to the United States, as illustrative of the respect in which they hold this country.

Those who look rather coldly upon Canada will be perhaps astonished to hear that she is the fourth maritime power in the world, and has 7,591 ships, with a tonnage of 899,000 tons. She stands ahead of every nation except Great Britain, the United States and France.

Rochester is distracted through the columns of its papers, over arithmetical problems. Here is one propounded: If one hundred yards of cord be wound in single coil upon an upright post an inch in diameter, what time will it take a man to unwind it, he holding one end in his hand and traveling in a circle whose radius is the unwound cord, supposing he walks four miles an hour; and what is the length of ground walked over.

A smart boy in one of the public schoo's, having been required to write a composition on some part of the human body, expanded as follows: "A throat is convenient to have, especially to roosters and ministers. The former eats corn and crows with it. The latter preaches through his'n, and then ties it up."

The latest California discovery announced is a spring of indelible ink.

Book Notices.

Literary Selections. *For the Students of the Normal College for Young Ladies in the City of New York.* 12 *mo.* *Pp.*: 566. *New York: Harper & Brothers.*

The compiler says, "It has been frequently observed that the pupils in the higher classes of the public schools of the city of New York evince a singular indifference for the study of English classical literature." Whether this results from the fact that but short articles are usually found in the reading book, or that the task of analyzing the poems of Milton, Thomson and others disgusts the pupil with these English classics, he does not pretend to decide. He has, however, presented a reading book which contains extracts of such length from standard authors as it is thought will give the pupil a taste for a further perusal of their works. Shakspeare is represented by the entire play of Hamlet; Goldsmith, by fifty-two pages of pastoral and dramatic poetry; Gibbon, by an extract of forty pages from the Decline and Fall of the Roman Empire; Johnson, by several chapters from Rasselas; De Foe, thirty pages from Robinson Crusoe; Burns, the Cotter's Saturday Night; Carlyle, the first book of the French Revolution; Macaulay, by over a hundred pages of his History of England; Thackeray, by the opening chapters of Vanity Fair, etc. Besides these, extracts are given from the productions of a dozen other poets and prose writers, making the book a literary treat to many an intelligent class that has grown weary of the ordinary reading book. M.

Bartholomew's Primary School Drawing Cards.

Bartholomew's Drawing Books—*New Series. Nos.* 3, 4 *and* 5. *Boston: Woolworth, Ainsworth & Co.*

Bartholomew's Rubber Cushioned Noiseless Drawing Slate. *Ruled for writing and music.*

An interesting article found elsewhere in this issue may serve to express our own views of the necessity and importance of this branch of instruction. An extended advertisement from Messrs. Woolworth, Ainsworth & Co., also found in its proper department, sets forth, we believe fairly, the merits of the Bartholomew System. We know it to be regarded by accomplished teachers of drawing as the best before the public, and congratulate the publishers upon the growing demand for this system in Pennsylvania. The slate is also the most substantial in the market. M.

The Normal Elementary Algebra; *containing the First Principles of the Science, developed with conciseness and simplicity: for common schools, academies, seminaries and Normal schools. By Prof. Edward Brooks, A. M, Principal of Pennsylvania State Normal School, and author of Normal Arithmetics, Normal Geometry, etc.* 12 *mo.* *Pp.*: 287 *Philadelphia: Sower, Potts & Co.*

This work, as the author remarks, "is the evolution of a carefully matured plan, the embodiment of an ideal formed by long and thoughtful experience in the school-room" It seems to embrace a sufficient number of topics for the ordinary student in algebra, while its subject matter is neither too difficult for the beginner nor too elementary for the more advanced pupil. Combining the French and English methods of treatment, the author has presented quite fully the theory of the science while he has at the same time given a large collection of problems for practice, thus rendering the work both philosophical and practical. The definitions have been very carefully prepared, some of them being remarkable for simplicity and conciseness. Several of them, as that of Algebra, will attract the attention of teachers and mathematicians. The solutions, demonstrations and explanations, as in all the works of the author, are simple, concise and clear. The classification of algebraic symbols under three distinct heads is another noticeable feature of the work. In our judgment the work is to be commended for the unity of plan and method, for the simplicity and conciseness of its solutions and explanations, for the large collection, the variety and appropriateness of the problems, and for the careful adaptation of the entire subject matter to the actual wants of the school room. The work is neatly printed and well bound, and unusual care has been bestowed upon its typography. The introduction of the small symbols for addition, subtraction, multiplication and division, which the author says are used in the best English works, we regard as an improvement. The work will without doubt meet with a cordial reception from teachers and pupils and be adopted in many of our schools. W.

Morning and Evening Exercises: *Selected from the Published and Unpublished Writings of the Rev. Henry Ward Beecher. Edited by Lyman Abbott, author of "Jesus of Nazareth," etc. Large* 12 *mo.* *Pp*: 560. *New York: Harper & Brothers.* 1871.

Following the calender from the first to the last day of the year—as "January 1: Morning" and "December 31: Evening"—are here given the choicest paragraphs culled from hundreds of Mr. Beecher's sermons. When it is remembered that this distinguished clergyman has probably never preached a sermon during his entire ministry from which something of rare excellence might not be taken, the interest and value of such a work as this will be at once apparent. We have sat down several times to give it brief notice in these columns, but turning the leaves to read, have been tempted on and on until the "notice" has been forgotten and remained unwritten. Mr. Beecher is a brave, helpful, loving nature. Royally gifted as he is in intellect, it is his great human heart, imbued with the truest spirit of Christian charity, that makes him to-day wield an influence for good greater, we believe, than that of any other man of our time, be he clergyman or layman. M.

First Lessons in Composition. *By John S. Hart, LL. D., author of "Composition and Rhetoric," "In the School-Room," etc.* 12*mo.* *Pp.* 144. *Philadelphia: Eldredge & Brother.* 1871.

The most successful teachers of composition are those who make it part of the *daily* work of the school-room. It should receive attention as constant as that given to reading or spelling. Indeed, why learn to spell at all unless it be that words may be correctly *written?* A general exercise of ten or fifteen minutes each morning, before the recitations for the day have begun—all the pupils writing upon a subject previously assigned, or one upon which something interesting has been said or read by the teacher—we know from experience to be invaluable in its results. Each pupil should have his blank book, which need not be large to contain the exercises of an entire session; each exercise should be properly dated; and no marks of correction made by the teacher or marks used in indicating errors for correction by the pupil should be erased: thus whatever progress is made can readily be seen from time to time. The little work named above is well adapted for use in the class-room and will afford the pupil a pleasing introduction to this branch upon which it takes the eminently common sense ground of practice before theory. M.